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The RAILER System for Maintenance Management of U.S. Army Railroad Networks:

RAILER I Computer User's Guide

by
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maintenance management

The U.S. Army Construction Engineering Research Laboratory (USA-CERL) is developing the RAILER system for managing the inspection, evaluation, and repair of Army railroad networks. This guide focuses on RAILER I, an interim system whose capabilities support FORMAP-2, a multiyear rail rehabilitation program at U.S. Army Forces Command (FORSCOM) and National Guard installations.

RAILER I consists of a set of data collection procedures and a computer program which will help Directorate of Engineering and Housing ~~(DEH)~~ personnel locate and identify their installation's railroad assets, assess current network conditions, determine short- and long-term maintenance and repair (M&R) needs, and systematically plan M&R work. The last activity is assisted by the Forces Command Railroad Project Prioritization Program (FORPROP), developed concurrently by USA-CERL. FORPROP uses data from RAILER I to prioritize M&R efforts.

This guide explains how to operate the RAILER I software. It includes instructions for entering data, updating data, and generating reports for the main trackage; for doing the same for related facilities data; and for preparing data for use in FORPROP. It also includes data collection forms at the end of each section to help illustrate their use. The development of RAILER I and its application to managing a railroad network are described in USA-CERL Technical Report M-88/18, *The RAILER System for Management of U.S. Army Railroad Networks: RAILER I Description and Use.*

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FOREWORD

This system was developed for the U.S. Army Forces Command (FORSCOM) under Army Funding Authorization Document 88-08837, dated September 1987. The FORSCOM Technical Monitor was initially William Taylor, (AFEN-TSF) and later Carol Jones (AFEN-TSF). Their support, as well as that of Donald Herby (AFEN-RMO), is very much appreciated.

The work was performed by the Engineering and Materials (EM) Division, U.S. Army Construction Engineering Research Laboratory (USA-CERL). The Principal Investigator was Donald R. Uzarski and the Associate Investigators were Donald E. Plotkin and David G. Brown. Debra A. Piland developed The RAILER I computer software. The authors wish to thank B. Sparks, R. Parham, M. Britton, S. Wagers, J. Crowder, M. Kahn, M. Pearson, and R. Harris for their contributions. Dr. Robert Quattrone is Chief, USA-CERL-EM. Jane Andrew, USA-CERL Information Management Office, was technical editor.

COL Carl O. Magnell is Commander and Director of USA-CERL, and Dr. L.R. Shaffer is Technical Director.

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THE RAILER SYSTEM FOR MAINTENANCE MANAGEMENT OF U.S. ARMY RAILROAD NETWORKS: RAILER I COMPUTER USER'S GUIDE

1. INTRODUCTION

1.1 Background

RAILER I is an interim railroad maintenance management system developed for use at U.S. Army Forces Command (FORSCOM) installations. Created by the U.S. Army Construction Engineering Research Laboratory (USA-CERL) for FORSCOM, RAILER I is intended to give installation Directorate of Engineering and Housing (DEH) personnel a decision support capability that previously did not exist for effectively managing the maintenance and repair needs of individual track networks.

1.2 Objective

The purpose of computer user's guide is to give the user a reference for operating the RAILER I microcomputer based system. For a description of RAILER I's development and its application to managing a railroad network, see USA-CERL Technical Report M-88/18. Technical Report M-88/18 discusses the inventory and inspection field procedures which precede computer data entry, and the decision support applications of RAILER I which use this data. It also includes descriptions of track rank and track condition calculations. Technical Report M-88/18 is the primary documentation of the RAILER I System; this guide is a supporting document for the computer operator.

R:BASE 5000 is the database manager used with RAILER I. However, it is actually hidden from the user, who instead sees only menus with "help" features. With limited introductory training, users find that the operating system is very easy to use.

RAILER I gives the user many important capabilities, including:

Network identification

Railroad network component identification

A location reference system

An inventory of pertinent elements

An inspection procedure based on portions of the interim U.S. Army Railroad Track Maintenance Standards (Headquarters Department of the Army, Assistant Chief of Engineers, October 1986)

A condition rating based on those standards and the Integrated Facilities System (IFS) (Component Inspector's Handbook, May 1979)

Work history information

Repair cost information

Traffic (car type and heaviest load) information

The transferring of certain information into the Railroad Project Prioritization Program (FORPROP)

The computer operating system permits the user to perform certain tasks. These include:

Data entry/edit/removal

Data retrieval

Data retrieval and analysis (condition rating)

Database administration

Figure 1 illustrates the database structure of RAILER I.

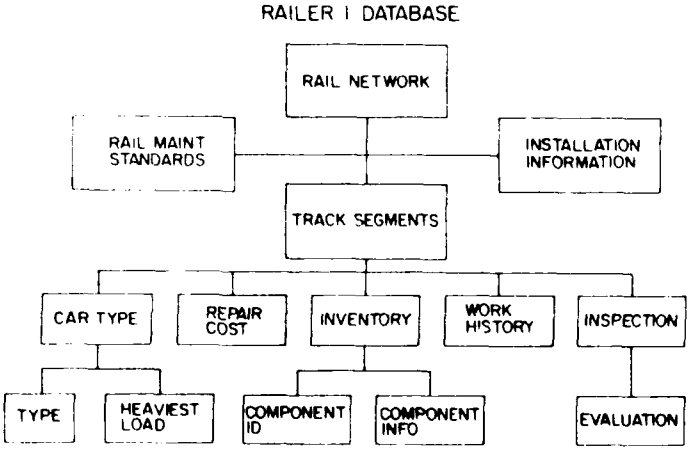


Figure 1

1.3 Five Steps for Using RAILER I

1. Collect pertinent field data for inventory, inspection, and traffic (car type and heaviest load). These are addressed in the RAILER I technical report.

2. Enter the collected data into the database. This is performed interactively though specific computer prompts. Automated track geometry information can also be entered in a batch mode from a specially prepared and formatted diskette. Repair cost information extracted from prepared work plans as well as work history information can also be entered interactively. This information consists of cost, year, and a brief description.

3. Store all collected data in the database until removed or modified through editing. Inspection and work history can be continually added without changing "old" information. This is discussed in Chapter 4.

4. Generate reports that provide the specific information needed for decision support. Chapter 5 describes how the reports can be obtained. Volume I discusses how the reports can be used.

5. Use the RAILER I features for backing up and restoring the database. These are discussed in Chapter 8.

1.4 Related Facilities

This guide is an explains the procedures for storing and transferring additional data needed for FORPROP in a separate program called RELATED. They address related facilities (ramps, docks, lighting, and marshalling yards) and commercial track condition. These procedures are discussed in Chapter 9.

1.5 Using this Manual

This manual lists the computer hardware and software requirements for RAILER I. It explains how to install and start RAILER I on the computer. This manual also provides a list of RAILER I files required to run the system.

Before using RAILER I, the user is strongly encouraged to read Chapter 2, "System Requirements."

Throughout this manual, **Boldface** represents either specific keys, menu options, or other entries that may be performed at that particular time.

Also, to help illustrate the various menu options more completely, numerous examples are provided throughout this guide.

2. SYSTEM REQUIREMENTS

2.1 Hardware Requirements

- IBM-PC, PC-XT, PC-AT, or 100 percent compatible microcomputer.

- 20 megabyte hard disk and one double-sided, double density 5.25-in. floppy disk drive. The floppy disk drive must allow at least reading of double-sided, double-density disks with 360K storage capacity.

- 640K of main memory.

- A color or monochrome monitor.

- Dot matrix 80-column printer (with IBM standard character set). RAILER I can use most printers that are compatible with the computers and operating system listed here. All the reports generated in RAILER I will print on an 80-column printer.

2.2 Software Requirements

- MS-DOS Version 3.0 or higher.

2.3 Installing the RAILER I System

Before attempting to install RAILER I, be sure that the DOS boot disk for the system has the following commands in its CONFIG.SYS file:

```
DEVICE = ANSI.SYS
FILES = 25
BUFFERS = 16
```

For more information about the CONFIG.SYS file refer to the DOS manual that accompanies the computer.

The diskettes containing the RAILER I files are low density diskettes. To install the RAILER I system, the diskettes must first be restored onto your computer in the order in which they are numbered.

A DOS prompt is the operating system prompt displayed at the far left of the screen. Usually it is a letter indicating the current drive. For example, if the current drive is c:, the DOS prompt looks like this:

```
C>
```

At the DOS prompt type one of the following RESTORE commands.

```
\DOS\RESTORE A: C:\*.* /S
        or
     RESTORE A: C:\*.* /S
```

The RAILER I files are automatically copied to a subdirectory called RAILER1 which is created when the RESTORE command is executed. The computer will prompt you to insert the floppy diskettes in the order in which they are numbered. For more information about the RESTORE command refer to the DOS manual.

The customer support representative can be contacted if questions arise.

Table 1 lists the RAILER I files needed to operate the system. If any are missing after the RESTORE command has been executed, repeat the RESTORE process. If files are still missing contact the Customer Support Representative.

	FILE NAME	DESCRIPTION
1.	PACK.DAT	Program File
2.	RAM.DAT	Program File
3.	RAM1.DAT	Program File
4.	RAMRT7.DAT	Program File
5.	STARTUP.DAT	Program File
6.	RAILER1.ABX	Program File
7.	RAILER1.APX	Program File
8.	RAILER1.EQX	Program File
9.	RAILER1.EXE	Program File
10.	RAILER1.MNX	Program File
11.	RAILER1.PRX	Program File
12.	RAILER1.SCX	Program File
13.	RAILER1.SPX	Program File
14.	RELATED.EXE	Program File
15.	RAILER11.RBS	Database File
16.	RAILER12.RBS	Database File
17.	RAILER13.RBS	Database File
18.	INITIAL.RTM	R:base Runtime File
19.	MESSAGE.RTM	R:base Runtime File
20.	RTIME.EXE	R:base Runtime File
21.	RTIME.OVL	R:base Runtime File

TABLE 1

2.4 Backing up the RAILER I System on Floppy Diskettes

If you are already in the RAILER I System, exit the OPENING MENU of RAILER I by pressing **[ESC]**. Then enter **X** and press **ENTER** to exit to DOS. At least five formatted floppy diskettes will be needed to backup all the files used in the RAILER I System. (For information on formatting diskettes, see your Dos Manual.) At the DOS prompt type:

BACKUP C:\RAILER1*.* A:

and press **ENTER**. The Backup command will automatically backup all the files in the RAILER1 directory onto floppy diskettes. Once the first diskette is full the computer will prompt you to inert the second diskette. The computer will continue asking for more diskettes until all the files have been backed up. For more information about the Backup command refer to the DOS manual.

3. STARTING UP RAILER I

1) Start up your computer with DOS.

2) If necessary, change drives to the one which RAILER I was installed on, the C drive. At the DOS prompt type:

C: and press **ENTER**

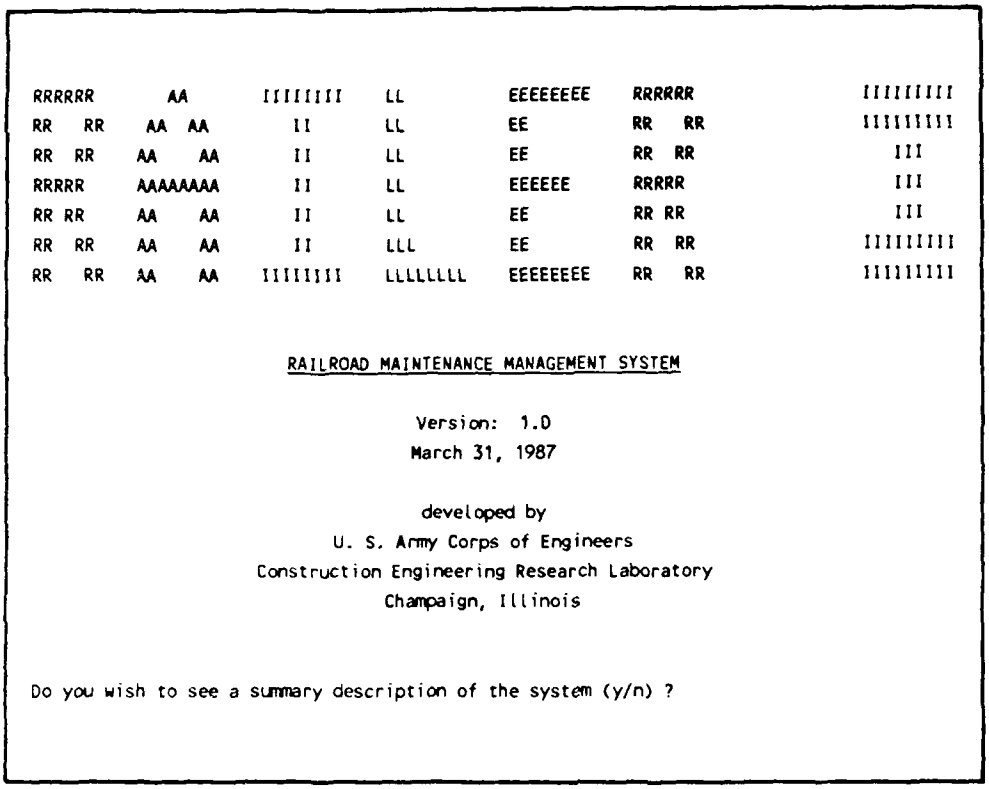
3) Change directories to \RAILER1. At the DOS prompt type:

CD\RAILER1 and press **ENTER**

3) Now you are ready to start the RAILER I SYSTEM. At the DOS prompt type:

RAILER1 and press **ENTER**

The following introductory screen will appear.



At the bottom of the screen you are asked if you wish to see a summary description of the RAILER I system.

Enter **N** and press **ENTER**, to continue running the system. See page 13.

Enter **Y** and press **ENTER**, to see the following summary description.

RAILER I SUMMARY DESCRIPTION

The RAILER I Railroad Maintenance Management system is a computerized decision support system intended for use by installation Directorate of Engineering and Housing (DEH) personnel as a tool to aid in locating and identifying physical assets, assessing conditions, determining maintenance and repair needs, and planning maintenance and repair work on the installation railroad track network. These activities are associated with network and project level management.

These management activities are accomplished through simple, but specific, prodecures for data collection and use. This system consists of a set of procedures and methods for dividing the track network into logical components, inventorying those components, compiling traffic car type and weight information, inspecting the trackage, determining conditions as compared to a standard, and storing maintenance and repair needs and costs. The information is stored in a computerized database which permits easy data loading, retrieval, and analyses. Developed for users with no computer knowledge, the system is completely menu driven. The total RAILER I system can be effectively utilized by personnel with limited railroad experience.

The major components of the track network are individual tracks and track segments. Tracks represent branches of the normal tree structure associated with the network. Track segments are relatively uniform portions of the tracks and constitute the basic management unit in the RAILER I system. Each track consists of one or more track segments.

Inventory information consists of an identification and listing of the physical attributes associated with each track segment. Inspection data is collected based on the inspection criteria of the current version of the U.S. Army Trackage Maintenance Standards. The RAILER I computer program compares the inspection results to those standards and along with the inventory and traffic information, permits the user to determine maintenance and repair needs on a segment by segment basis. The database also stores maintenance\repair\construction cost estimates for each track segment.

All data used is site specific and is gathered at the time of RAILER I implementation. Inspection information must be updated at periodic intervals. Inventory and traffic information needs to be updated as changes occur.

RAILER I was developed by D.R. Uzarski PE, and D.E. Plotkin of the U.S. Army Construction Engineering Research Laboratory, Champaign, illinois, under an initiative from F.W.B. (Bill) Taylor of the U.S. Army Forces Command. Computer programming was done by D. Piland with assistance from B. Sparks and R. Parham. Overall assistance was received from D. Brown, G. Prose, S. Hinrichs and S. Wagers.

If you pressed **N** and then **ENTER**, the following OPENING MENU will appear. Listed below is a description of each option. The next three chapters will explain the use of these options.

```
                    OPENING MENU
    (1)  Update Information
    (2)  Report Generation                    F[10] HELP
    (3)  Prepare Diskette for FORPROP         [ESC] TO EXIT
```

OPENING MENU

OPTIONS:

(1) UPDATE INFORMATION - This option takes you to another menu screen which gives you the choice to update Installation Information, Track Segment Inventory Information, Track Segment Inspection Information, Car Type Information, Repair Cost Information, and Work History Information. See page 15.

(2) REPORT GENERATION - This option takes you to another menu screen for generating various reports. See page 100.

(3) PREPARE DISKETTE FOR FORPROP - This option copies information from your database onto a diskette to be sent to U.S. Army Forces Command, where it will be used in the operation of FORPROP (Forces Command Prioritization Program). Once this process has been completed, send FORSCOM your diskette. See page 152. Their address is:

FORSCOM
ATTN: AFLG-TRM
Fort McPherson, GA 30330-6000

F[10] This option displays a help screen.

[ESC] This option exits from the RAILER I system. See page 156.

To select an option, move to the desired option (in one of the three ways listed below) and press **ENTER**.

You can move to a option three different ways:

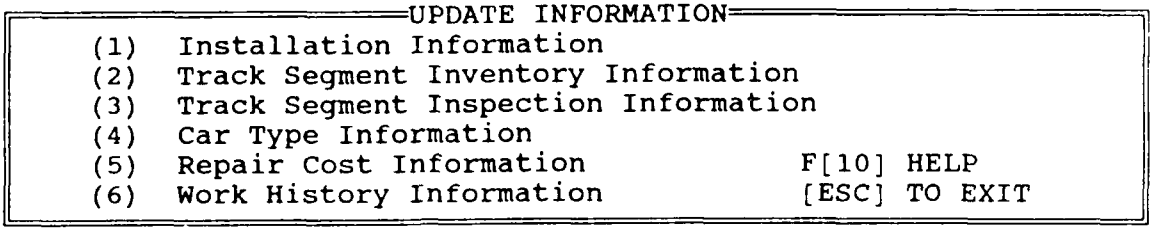
1) Type the corresponding number and the cursor will move to that option.

2) Press the space bar to move the cursor down to the next option.

3) Use the arrow keys to move the cursor up or down to the correct option.

4. UPDATING INFORMATION

Option (1) from the OPENING MENU displays the following UPDATE INFORMATION menu. Explanations of the options are below.



UPDATE INFORMATION

OPTIONS:

(1) INSTALLATION INFORMATION - This option takes you to another menu screen which gives you the choice to ADD or EDIT Installation Information. See page 16.

(2) TRACK SEGMENT INVENTORY INFORMATION - This option takes you to another menu screen which gives you the choice to ADD or EDIT the Track Segment Inventory Information. See page 29.

(3) TRACK SEGMENT INSPECTION INFORMATION - This option takes you to another menu screen which gives you the choice to ADD or EDIT Track Segment Inspection Information and to Indicate Uninspected Deteriorated Track. See page 54.

(4) CAR TYPE INFORMATION - This option allows you to UPDATE Rail Car Type Information for Auxiliary, Loading, Service, and Storage Tracks. The computer then automatically generates the Car Type Information for the rest of the tracks on the installation. See page 87.

(5) REPAIR COST INFORMATION - This option allows you to UPDATE Repair Cost Information for each Track Segment. See page 93.

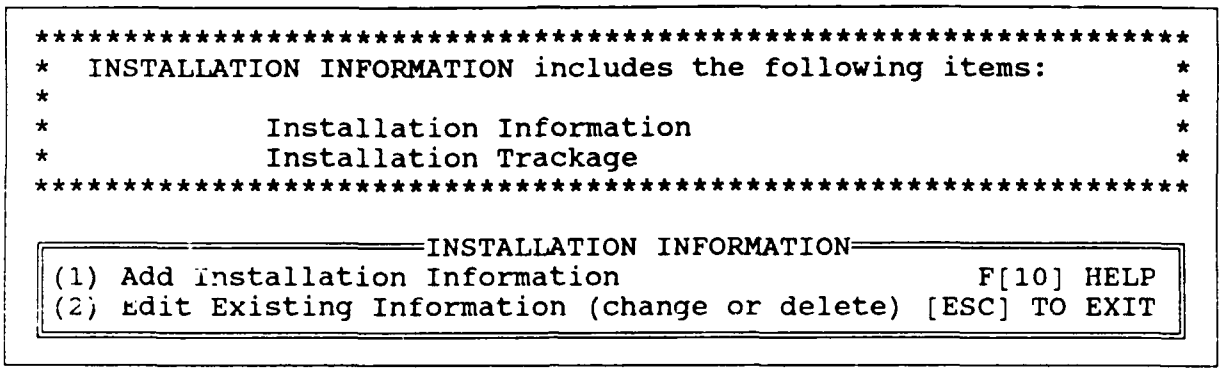
(6) WORK HISTORY INFORMATION - This option allows you to ADD or EDIT Work History Information for each Track Segment. See page 95.

F[10] This option displays a help screen.

[ESC] This option returns you to the OPENING MENU on page 13.

4.1 Installation Information

Option (1) from the UPDATE INFORMATION menu displays the following INSTALLATION INFORMATION menu. Explanations of the options are below.



INSTALLATION INFORMATION

OPTIONS:

(1) ADD INSTALLATION INFORMATION - This option allows you to add new information into the database. It cannot be used to edit existing information. See page 17.

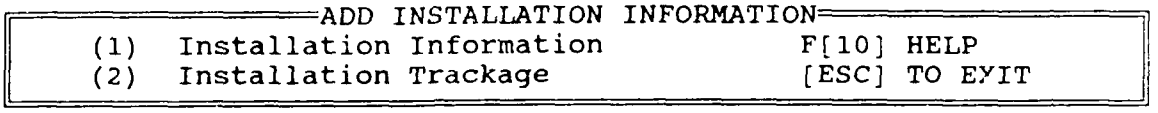
(2) EDIT EXISTING INFORMATION - This option allows you to change or delete existing information. See page 23.

F[10] This option displays a help screen.

[ESC] This option returns to the UPDATE INFORMATION menu on page 15.

Add Installation Information

Option (1) from the INSTALLATION INFORMATION menu displays the following ADD INSTALLATION INFORMATION menu. Explanations of the options are below.



ADD INSTALLATION INFORMATION

OPTION:

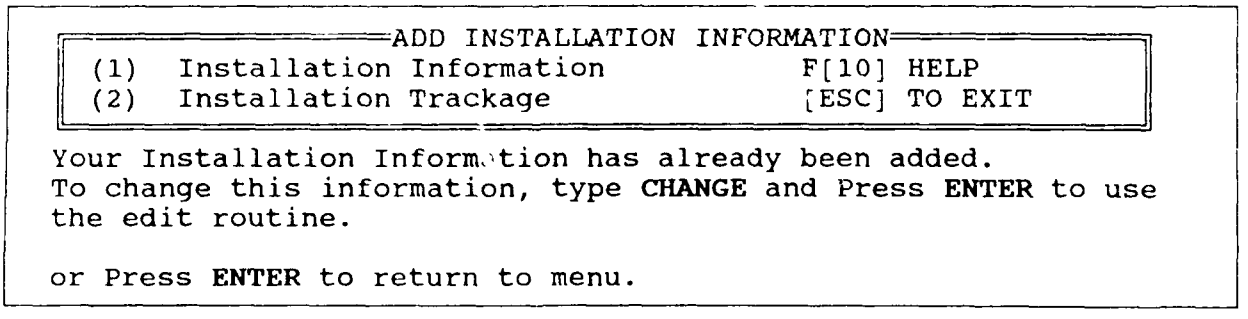
(1) INSTALLATION INFORMATION - Installation Information includes: INSTALLATION NUMBER(S), RELATION CODE(S), INSTALLATION NAME, STATE and SERVING RAILROAD COMPANY NAME(S). See page 19.

(2) INSTALLATION TRACKAGE - Installation Trackage includes: TRACK NUMBER, TRACK LENGTH, and NUMBER OF SEGMENTS. See page 21.

F[10] This option displays a help screen.

[ESC] This option returns to the INSTALLATION INFORMATION menu. See page 16.

Option (1) from the ADD INSTALLATION INFORMATION menu will display the following message if you have already added your Installation Information.



If you want to make changes to your Installation Information type **CHANGE** and press **ENTER** and the computer will automatically go to the edit routine; otherwise, press **ENTER** to return to the ADD INSTALLATION INFORMATION menu.

You may only add one Installation Name into the INSTALLATION INFORMATION. The RAILER I system was designed to contain only data for only one installation; therefore, you may only enter one installation name. All the information in the database must all be related to this installation.

Option **(1)** from the ADD INSTALLATION INFORMATION menu displays the following screen if your Installation Information has not been added. The data requirements are explained below.

```
Press [ESC] when done with this data

                    INSTALLATION INFORMATION

                Installation Number(s):  EX111


                    Relation Code(s):  EX111


          Installation Name:  CAMP EXAMPLE B       State:  OR

      Serving Railroad Company Name(s):  UNION PACIFIC RAILROAD
```

INSTALLATION NUMBER(S) - You must enter at least one Installation Number for a given installation. This number is alphanumeric and can be up to five characters long. If the installation has two Installation Numbers, both should be entered.

RELATION CODE(S) - The Relation Code is a five digit alphanumeric number. If the installation has two Relation Codes, both should be entered. In most cases, the Relation Code is the same number as the Installation Number.

INSTALLATION NAME - Enter the name of the installation. It may be twenty characters long.

STATE CODE - Enter the two letter abbreviation of the state in which the installation is located.

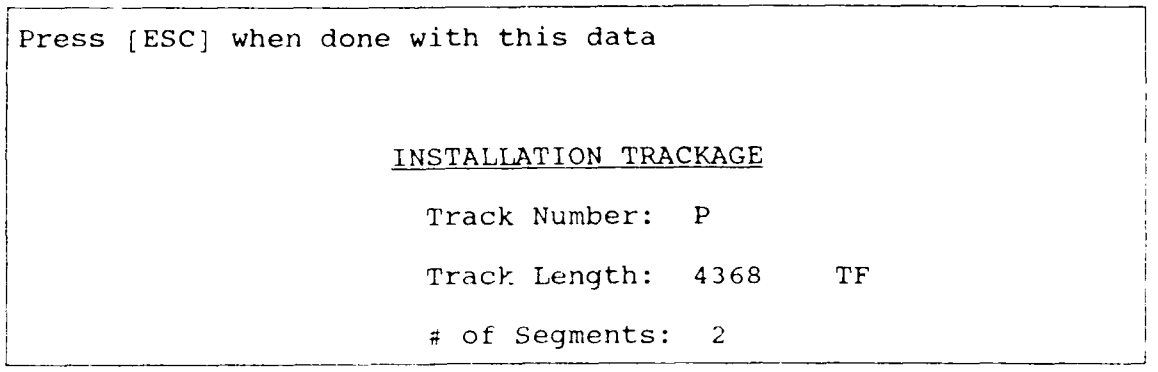
SERVING RAILROAD COMPANY NAME(S) - Enter the name or names of the commercial railroad(s) which service the installation. Up to four serving railroad company names may be entered.

To enter the Installation Information press **ENTER** or use the **TAB** key to move to the next field on the screen.

Press **[ESC]** when done with this data. The information is then added into your database and the computer will return to the ADD INSTALLATION INFORMATION menu. See page 17.

HINT - The Installation Information should be the first data entered into your database. When reports are generated without the Installation Information having been entered the reports do not have any headings and they are very difficult to read. If you are having this problem, simply add the Installation Information and the headings will then be printed on your reports.

Option (2) from the ADD INSTALLATION menu displays the following screen. The data requirements are explained below.



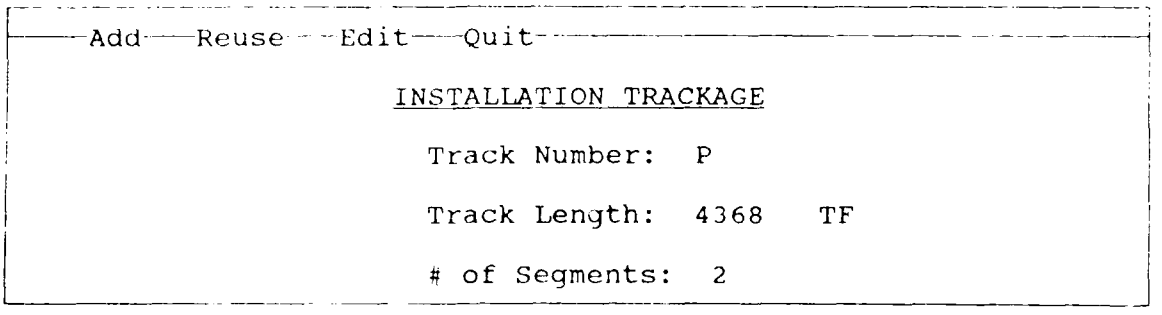
TRACK NUMBER - Enter the alphanumeric Track Number. It may be up to five characters long. A unique Track Number should be entered for every track on the installation.

TRACK LENGTH - Enter the length of the track in feet (track feet = TF). This must be an integer number.

OF SEGMENTS - Enter the Number of Segment in the track. This must be an integer.

To enter the Installation Trackage Information press **ENTER** or use the **TAB** key to move to the next field on the screen.

Press [**ESC**] when done with this data. The command line in the upper left corner of your screen will change to display four ADD options. An explanation of these ADD options is provided on the next page.



ADD The information displayed on the screen is added to the database. Then a new screen is displayed ready for you to enter more data.

REUSE The information displayed on the screen is added to the database. Then the same screen is displayed with the same values so that you may reuse the same values in your next entry, instead of retyping them all in again.

EDIT The information displayed on the screen may be changed. Press **[E]** and modify the information. When you are done, press the **[ESC]** key to return to the ADD command menu and choose one of the other options: ADD or REUSE.

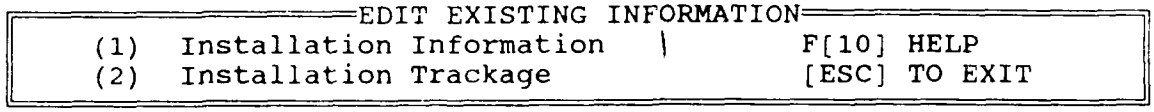
QUIT This option terminates the ADD mode.

Use the arrow keys, or the space bar to move the cursor to the correct menu option and press **ENTER.**

HINT - The ending location (station) of the final Track Segment for a given Track will also represent the track length. For example, the ending location for Track Segment 02 of Track P is station 43+68. Therefore, the length is 4368 TF.

Edit Installation Information

Option (2) from the INSTALLATION INFORMATION menu displays the following EDIT EXISTING INFORMATION menu. Explanations of the options are below.



EDIT EXISTING INFORMATION

OPTIONS:

(1) INSTALLATION INFORMATION - Installation Information includes: INSTALLATION NUMBER(S), RELATION CODE(S), INSTALLATION NAME, STATE, and SERVING RAILROAD COMPANY NAME(S). See page 24.

(2) INSTALLATION TRACKAGE - Installation Trackage includes: TRACK NUMBER, TRACK LENGTH, and NUMBER OF SEGMENTS. See page 25.

F[10] This option displays a help screen.

[ESC] This option returns to the INSTALLATION INFORMATION menu on page 16.

Option (1) from the EDIT EXISTING INFORMATION menu displays the following screen. The data requirements are explained below.

```
Press [ESC] when done with this data

                    INSTALLATION INFORMATION

                Installation Number(s):  EX111


                   Relation Code(s):  EX111


          Installation Name:  CAMP EXAMPLE B       State:  OR

     Serving Railroad Company Name(s):  UNION PACIFIC RAILROAD
```

INSTALLATION NUMBER(S) - You must enter at least one Installation Number for a given installation. This number is alphanumeric and can be up to five characters long. If the installation has two Installation Numbers, both should be entered.

RELATION CODE(S) - The Relation Code is a five digit alphanumeric number. If the installation has two Relation Codes, both should be entered. In most cases, the Relation Code is the same number as the Installation Number.

INSTALLATION NAME - This is simply the name of the installation. If may be twenty characters long.

STATE CODE - Enter the two letter abbreviation of the state in which the installation is located.

SERVING RAILROAD COMPANY NAME(S) - Enter the name or names of the commercial railroad(s) which service the installation. Up to four serving railroad company names may be entered.

Enter any changes to the fields. Press **ENTER** or use the **TAB** key to move the next field on the screen.

Press **[ESC]** when you are done editing this data. The changes you made to the Installation Information on the screen are then made in the database. The computer will return to the EDIT EXISTING INFORMATION menu on page 23.

Option (2) from the EDIT EXISTING INFORMATION menu will first display the following message.

```
                    EDIT EXISTING INFORMATION
   (1)    Installation Information              F[1C] HELP
   (2)    Installation Trackage                 [ESC] TO EXIT

To EDIT :
Enter TRACK # or
 Leave Blank to start at first TRACK #:
```

Enter the Track Number and press **ENTER** to start editing at that Track Number or leave the number blank and just press **ENTER** to start at the first Track Number. The Track Numbers will appear in alphabetical order. If there is not any Installation Trackage to be found for the Track Number entered, the computer automatically retrieves the next available Track Number in alphabetical order from the installation trackage table where this data is stored. If there are not any more available, the computer returns to the above menu automatically. If a Track Number is found the screen shown on the next page will appear. The menu options are also explained. See page 21 for a complete explanation of each of the INSTALLATION TRACKAGE elements.

```
Skip--Edit--Change--Add--Reset--Delete--Quit

                    INSTALLATION TRACKAGE

                      Track Number:  P

                      Track Length:  4368    TF

                      # of Segments:  12
```

SKIP The information displayed on the screen is not modified and the next row in the table is displayed.

EDIT The information displayed on the screen may be changed. Press [E] and modify the information. When you are done, press the [**ESC**] key to return to the EDIT command line. At this point the modifications made on the screen have not been saved in the database. Choose one of the other options: **CHANGE**, **ADD**, **RESET**, or **DELETE**.

CHANGE The modified information on the screen is saved and the next row in the table is displayed.

ADD The information displayed on the screen is added as a new row to the database and the original row is left unchanged. You now have two rows of information. Then a new screen is displayed ready for you to enter more data.

RESET The information displayed on the screen is not saved. The computer ignores the modifications you made to the row and resets the row to its original values. If the change or add options have already been entered, RESET will not recall the original values.

DELETE The information displayed on the screen is deleted from the database when you confirm the command. Then the next row in the table is displayed.

QUIT This option terminates the EDIT mode.

Use the arrow keys, or the space bar to move the cursor to the correct EDIT option from the command line and press **ENTER**.

The following page is a sample Installation Network Information Collection Form. The Network Information is collected in the office or field and then entered into the computer off of these forms.

RAILER I
INSTALLATION INFORMATION DATE _____

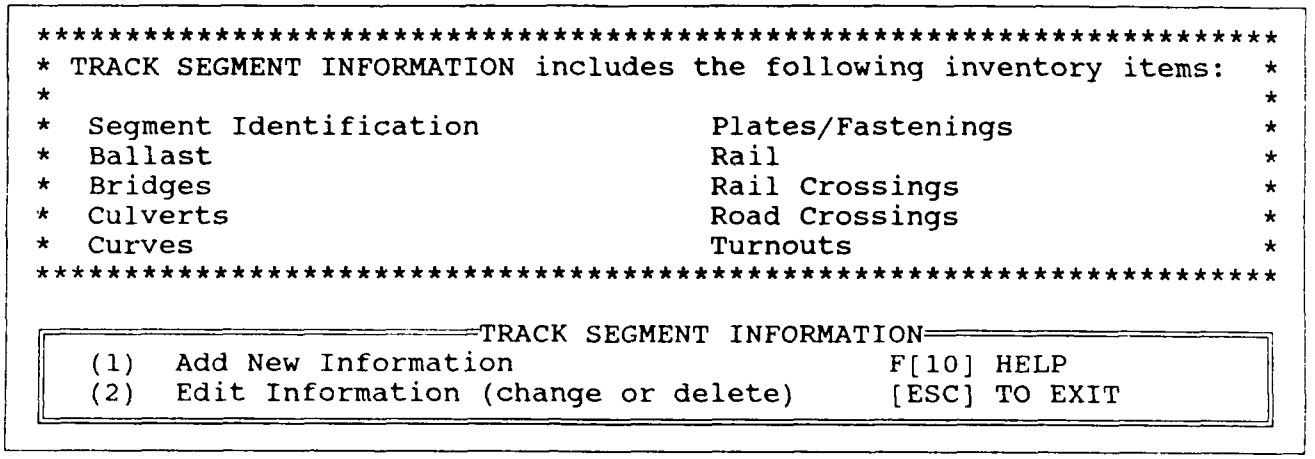
INSTALLATION INFORMATION				
Installation Number	Relation Code	Installation Name	State Code	Serving Railroad Company Name

INSTALLATION TRACKAGE								
Track Number	Track Length	# of Segments	Track Number	Track Length	# of Segments	Track Number	Track Length	# of Segments

12/15/86

4.2 Track Segment Inventory Information

Option **(2)** from the UPDATE INFORMATION menu displays the following TRACK SEGMENT INFORMATION menu. Explanations of the options are below.



TRACK SEGMENT INFORMATION

OPTIONS:

(1) ADD NEW INFORMATION - This option takes you to another menu screen which lists two options for adding new inventory. See page 30.

(2) EDIT INFORMATION - This option allows you to change or delete inventory information already stored in the database. See page 51.

F[10] This option displays a help screen.

[ESC] This option returns to the UPDATE INFORMATION menu. See page 15.

Add Track Segment Inventory Information

Option (1) from the TRACK SEGMENT INFORMATION menu displays the following ADD NEW INFORMATION menu. Explanations of the options are below.

ADD NEW INFORMATION	
(1) Entire New Track Segment	F[10] HELP
(2) Items for a Track Segment	[ESC] TO EXIT

ADD NEW INFORMATION

OPTIONS:

(1) ENTIRE NEW TRACK SEGMENT - This option allows you to add the information for an entire Track Segment without having to enter the Track Segment Number for each item. First, you enter the Segment Identification Information, then the other items for that Track Segment. The Track Segment Number is automatically entered for the other items. This option should be used when entering information from the Track Segment Inventory data collection form shown on page 53. If this option is selected the screen on page 31 is displayed.

(2) ITEMS FOR A TRACK SEGMENT - This option allows you to add inventory for a Track Segment one item at a time. You must enter the Track Segment Number every time you enter a new item. Segment Identification Information must be entered before other items can be added. This option is used when the Track Segment Information has already been entered, but more information needs to added to that Track Segment. For example, if the Track Segment Information has already been added for Track Segment M01 and you now wish to add some Rail Information to that Track Segment you would select this option to add the Rail Information. If this option is selected the screen on page 49 is displayed.

F[10] This option displays a help screen.

[ESC] This option returns to the TRACK SEGMENT INFORMATION menu. See page 29.

Option (1) from the ADD NEW INFORMATION menu displays the following screen. The data requirements are explained below.

Press [ESC] to ADD this data -- [PGUP] to SKIP

SEGMENT IDENTIFICATION

Track Segment #: 101

Begin Location: 1+11 End Location: 50+16

Track Category (A or B): A

Track Use (ACCESS, AUXILIARY, LOADING, SERVICE, or STORAGE): ACCESS

Track Rank: 0.0

Preceding Segment #(s): M08

Comments:

TRACK SEGMENT # - This element is an eight character alphanumeric code assigned for Track Segment Identification. It is created by adding a two digit suffix to the Track Number. This is a required element. If this element is not entered an error will be displayed at the top of the screen telling you that Track Segment Number is required.

BEGIN LOCATION - This element is the track station marking the beginning of the Track Segment. It should be entered in the following format: 1+11. If the location is not entered in this format an error will be displayed at the top of the screen telling you that the Begin Location is invalid. This is a required element. If this element is not entered an error will be displayed telling you that the Begin Location is required.

END LOCATION - This element is the track station marking the end of the Track Segment. It should be entered in the following format: 50+16. If the location is not entered in this format an error will be displayed at the top of the screen telling you that the End Location is invalid. This is a required element. If the element is not entered an error will be displayed telling you that the End Location is required.

TRACK CATEGORY - This element is entered as either **A** or **B**.

"A" is trackage with a mobilization mission.
"B" is trackage with no mobilization mission.

TRACK USE - This element is one of the five Track Uses listed below. Enter the appropriate Track Use.

ACCESS Tracks which provide connections between the other types of tracks, as well as those which link the installation and the commercial routes.

AUXILIARY Tracks used to aid train operations.

LOADING Tracks used for loading and unloading equipment and supplies.

SERVICE Tracks used for servicing either general installation operations or railroad equipment.

STORAGE Tracks used for long or short term storage of freight cars.

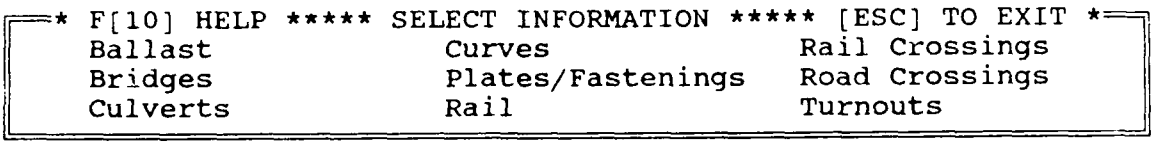
TRACK RANK - This element is a real number showing the relative importance of the current Track Segment to other Track Segments. For more information on the calculations of the Track Rank refer to Volume I of this report

PRECEDING SEGMENT NUMBER(S) - This element is eight alphanumeric characters. You may enter two Preceding Track Segment numbers for any given Track Segment. The Preceding Track Segment Number is the Track Segment that the train must pass through in order to travel on the current segment.

COMMENTS - This element is 160 alphanumeric characters long. This space is provided for written comments, when necessary.

To enter the Segment Identification Information press **ENTER** or use the **TAB** key to move the cursor to the next field. Press [PGUP] to skip this screen and return to the ADD NEW INFORMATION menu on page 30.

Once all the Segment Identification elements have been entered correctly, press [ESC] to ADD this data to your database. If you press [ESC] the menu on the next page will appear. Also listed on the next page is an explanation of the options.



SELECT INFORMATION

OPTIONS:

BALLAST	This table includes: TRACK SEGMENT NUMBER, DEPTH, and COMMENTS.
BRIDGES	This table includes: TRACK SEGMENT NUMBER, FACILITY NUMBER, CONSTRUCTION TYPE, DECK TYPE, and COMMENTS.
CULVERTS	This table includes: TRACK SEGMENT NUMBER, CENTERLINE LOCATION, and COMMENTS.
CURVES	This table includes: TRACK SEGMENT NUMBER, CURVE ID NUMBER, CURVATURE, MAXIMUM DESIRED SPEED, and COMMENTS.
PLATES/FASTENINGS	This table includes: TRACK SEGMENT NUMBER, TIE PLATES, RAIL ANCHORS (#/200 TF), GAGE RODS, and COMMENTS.
RAIL	This table includes: TRACK SEGMENT NUMBER, WEIGHT, SECTION, BEGIN LOCATION, and COMMENTS.
RAIL CROSSINGS	This table includes: TRACK SEGMENT NUMBER, CENTERLINE LOCATION, CROSSING SEGMENT NUMBER, RAIL WEIGHT, FROG TYPE, CROSSING ANGLE, and COMMENTS.
ROAD CROSSINGS	This table includes: TRACK SEGMENT NUMBER, ROAD NAME, CENTERLINE LOCATION, CROSSING LENGTH, CROSSING TYPE, BOLTED JOINTS, and COMMENTS.
TURNOUTS	This table includes: TRACK SEGMENT NUMBER, TURNOUT ID NUMBER, SWITCH POINT LOCATION, DIRECTION, POINT LENGTH, RAIL WEIGHT, FROG TYPE, FROG SIZE, GUARD RAIL LENGTH, and COMMENTS.
F[10]	This option displays a help screen.
[ESC]	This option returns to the ADD NEW INFORMATION menu on page 30.

Select the items you wish to ADD to the Track Segment Information in any order. Continue until you have entered all the items that are needed to complete the information for the Track Segment. If you are entering this data from the Track Segment Inventory Collection Form, select the next item on your sheet and enter these data elements. Continue this process until all items have been entered.

Press **[ESC]** when you are done entering information for this Track Segment. The computer will then ask if you wish to ADD more Track Segment Information.

Enter **Y** and press **ENTER** if you have another Track Segment to enter. The computer will then start back at the SEGMENT IDENTIFICATION screen. See page 31.

Enter **N** and press **ENTER** if you do not have any more Track Segment Information to enter. The computer will exit back to the ADD NEW INFORMATION menu. See page 30.

The following screens (pages 35 through 48) describe each of the items in the menu above and the elements involved.

Option **BALLAST** from the SELECT INFORMATION menu displays the following screen. The data requirements are explained below.

```
Press [ESC] to ADD this data -- [PGUP] to SKIP

                          BALLAST

                  Track Segment #:  101

                       Depth:  14 inches

Comments:


 Do you have more BALLAST INFORMATION to enter for this segment (Y/N) ?
```

DEPTH - This element is the average depth of the ballast. The depth is entered as an integer field in inches.

COMMENTS - This element is 160 alphanumeric characters long. This space is provided for written comments, when necessary.

To enter the Ballast Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press **[PGUP]** to SKIP without adding this data.

Once all the Ballast elements have been entered correctly, press **[ESC]** to ADD this data. The computer will then ask you if you want to add more BALLAST INFORMATION for this same Track Segment. Enter **Y** or **N**. If you enter **Y**, then the computer returns to the above screen ready for you to enter more BALLAST INFORMATION. If you enter **N**, then the computer returns to the SELECT INFORMATION menu. See page 33.

Option **BRIDGES** from the SELECT INFORMATION menu displays the following screen. The data requirements are explained below.

```
Press [ESC] to ADD this data -- [PGUP] to SKIP

                          BRIDGES

                  Track Segment #:  101

                       Facility #:  BRG021

                  Construction Type:  WOOD

              Deck Type (OPEN or BALLAST):  OPEN

Comments:

Do you have more BRIDGE INFORMATION to enter for this segment (Y/N) ?
```

FACILITY # - This element is the full Facility Identification Number as carried in the U.S. (IFS) Army Integrated Facilities System. This field is eight characters long.

CONSTRUCTION TYPE - This element describes the type and kind of material used in the construction of the bridge. This field is twenty characters long.

DECK TYPE - This element describes the kind of deck. It may be either **OPEN** or **BALLAST**. If any other entry is made an error will be displayed at the top of the screen telling you the Deck Type is invalid.

COMMENTS - This element is 160 alphanumeric characters long. This space is provided for written comments, when necessary.

To enter the Bridge Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press **[PGUP]** to SKIP without adding this data.

Once all the Bridge elements have been entered correctly, press **[ESC]** to ADD this data. The computer will then ask you if you want to add more BRIDGE INFORMATION for this same Track Segment. Enter **Y** or **N**. If you enter **Y**, the computer returns to the above BRIDGE INFORMATION screen. If you enter **N**, the computer returns to the SELECT INFORMATION menu. See page 33.

Option **CULVERTS** from the SELECT INFORMATION menu displays the following screen. The data requirements are explained below.

Press [ESC] to ADD this data -- [PGUP] to SKIP

CULVERTS

Track Segment #: 101

Centerline Location: 47+41

Comments:

Do you have more CULVERT INFORMATION to enter for this segment (Y/N) ?

CENTERLINE LOCATION - This element is the Track Segment station location where the centerline of the culvert crosses the Track Segment. This must be entered in the following format: 47+41. If the Centerline Location is not entered in this format an error will be displayed on the top of the screen telling you that the Centerline Location is invalid.

COMMENTS - This element is 160 alphanumeric characters long. This space is provided for written comments, when necessary.

To enter the Culvert Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press **[PGUP]** to SKIP without adding this data.

Once all the Culvert elements have been entered correctly, press **[ESC]** to ADD this data. The computer will then ask you if you want to add more CULVERT INFORMATION for this same Track Segment. Enter **Y** or **N**. If you enter **Y**, then the computer returns to the above screen ready for you to enter more CULVERT INFORMATION. If you enter **N**, then the computer returns to the SELECT INFORMATION menu. See page 33.

Option **CURVES** from the SELECT INFORMATION menu displays the following screen. The data requirements are explained below.

```
Press [ESC] to ADD this data -- [PGUP] to SKIP

                              CURVES

                    Track Segment #:  101

                         Curve ID #:  1C1

                       Curvature : 8.0   degrees

                   Max desired Speed:  15   m.p.h.

Comments:


Do you have more CURVE INFORMATION to enter for this segment (Y/N) ?
```

CURVE ID # - This element is the assigned identifying number for the curve. Each curve is assigned a specific number up to eight characters long which is used to specifically identify that curve.

CURVATURE - This element is the curvature measured in degrees. It is entered as a real number. This is a required element. If the curvature is unknown enter zero. If the Curvature is not entered an error will be displayed on the screen telling you that the Curvature is required.

MAX DESIRED SPEED - This element the average speed of the train as it passes through the curve. It should be entered as an integer. This is a required element. If the speed is unknown enter zero. If the Max Desired Speed is not entered the computer assumes it to be zero.

COMMENTS - This element is 160 alphanumeric characters long. This space is provided for written comments, when necessary.

To enter the Curve Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press **[PGUP]** to SKIP without adding this data.

Once all the Curve elements have been entered correctly, press [**ESC**] to ADD this data. The computer will then ask you if you want to add more CURVE INFORMATION for this same Track Segment. Enter **Y** or **N**. If you enter **Y**, the computer returns to the above CURVE INFORMATION screen. If you enter **N**, the computer returns to the SELECT INFORMATION menu. See page 33.

Option **PLATES/FASTENINGS** from the SELECT INFORMATION menu displays the following screen. The data requirements are explained below.

```
Press [ESC] to ADD this data -- [PGUP] to SKIP

                        PLATES/FASTENINGS

                    Track Segment #:  101

                    Tie Plates (N or Y): Y

                    Rail Anchors(#/200 TF): 80

                    Gage Rods (N or Y): N

Comments:

Do you have more PLATES/FASTENINGS INFORMATION to enter
for this segment (Y/N) ?
```

TIE PLATES - This element has a **N** or **Y** response. Indicate whether or not there are Tie Plates within the Track Segment (N=NO, Y=YES).

RAIL ANCHORS (#/200TF) - Enter the number of Rail Anchors per 200 track feet in the Track Segment. It is entered as an integer.

GAGE RODS - This element has a **N** or **Y** response. Indicate whether or not there are Gage Rods within the Track Segment (N=NO, Y=YES).

COMMENTS - This element is 160 alphanumeric characters long. This space is provided for written comments, when necessary.

To enter the Plates and Fastenings Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press **[PGUP]** to SKIP without adding this data.

Once all the Plates and Fastenings elements have been entered correctly, press **[ESC]** to ADD this data. The computer will then ask you if you want to add more PLATES/FASTENINGS INFORMATION for this same Track Segment. Enter **Y** or **N**. If you enter **Y**, the computer returns to the above PLATES/FASTENINGS INFORMATION screen. If you enter **N**, the computer returns to the SELECT INFORMATION menu. See page 33.

Option **RAIL** from the SELECT INFORMATION menu displays the following screen. The data requirements are explained below.

```
Press [ESC] to ADD this data -- [PGUP] to SKIP

                              RAIL

                    Track Segment #:  101

                    Weight:  90     lbs/yd

                       Section:  AS

                    Begin Location: 1+11

Comments:

Do you have more RAIL INFORMATION to enter for this segment (Y/N) ?
```

WEIGHT - This element is the weight of the rail in units of lbs/yd. This is entered as an integer.

SECTION - This element is the cross section of the rail. This field is four characters long.

BEGIN LOCATION - This element is the station that marks the beginning of a particular rail weight or section. This location must be entered in the following format: 1+11. If the location is not entered in the format, an error will be displayed on the screen telling you that the Begin Location in invalid. This is a required element. If the Begin Location is not entered an error will be displayed on the screen telling you that the Begin Location is a required element and must be entered.

COMMENTS - This element is 160 alphanumeric characters long. This space is provided for written comments, when necessary.

To enter the Rail Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press **[PGUP]** to SKIP without adding this data.

Once all the Rail elements have been entered correctly, press **[ESC]** to ADD this data. The computer will then ask you if

you want to add more RAIL INFORMATION for this same Track Segment. Enter **Y** or **N**. If you enter **Y**, the computer returns to the above RAIL INFORMATION screen. If you enter **N**, the computer returns to the SELECT INFORMATION menu. See page 33.

Option **RAIL CROSSINGS** from the SELECT INFORMATION menu displays the following screen. The data requirements are explained below.

```
Press [ESC] to ADD this data -- [PGUP] to SKIP

                        RAIL CROSSINGS

                  Track Segment #:  101

                  Centerline Location: 12+29

                  Crossing Segment #: 601

                  Rail Weight:  90   lbs/yd

              Frog Type (BOLTED, MANGANESE INSERT,
                        OR SOLID MANGANESE): BOLTED

                Crossing Angle:  60    degrees

Comments:


Do you have more RAIL CROSSING INFORMATION to enter
for this segment (Y/N) ?
```

CENTERLINE LOCATION - This element is the Track Segment station location where the centerline of the crossing track crosses. It must be entered in the following format: 12+29. If the Centerline Location is not entered in this format, an error will be displayed on the screen telling you the Centerline Location is invalid.

CROSSING SEGMENT # - This element is the Track Segment Number of the crossing segment. It is a field of eight characters.

RAIL WEIGHT - This element is the weight of the rail in units of lbs/yd, within the rail crossing. It is entered as an integer.

FROG TYPE - This element describes the type of frog in the rail crossing. Valid entries are : BOLTED, MANGANESE INSERT, SOLID MANGANESE. If Frog Type is entered as something other than the valid entries, an error will be displayed on the screen telling you Frog Type is invalid.

CROSSING ANGLE - This element is the angle, in degrees, at which the Track Segments cross. This field is a two digit integer.

COMMENTS - This element is 160 alphanumeric characters long. This space is provided for written comments, when necessary.

To enter the Rail Crossings Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press [PGUP] to SKIP without adding this data.

Once all the Rail Crossings elements have been entered correctly, press [**ESC**] to ADD this data. The computer will then ask you if you want to add more RAIL CROSSINGS INFORMATION for this same Track Segment. Enter **Y** or **N**. If you enter **Y**, the computer returns to the above RAIL CROSSINGS INFORMATION screen. If you enter **N**, the computer returns to the SELECT INFORMATION menu. See page 33.

Option **ROAD CROSSINGS** from the SELECT INFORMATION menu displays the following screen. The data requirements are explained below.

Press [ESC] to ADD this data -- [PGUP] to SKIP

ROAD CROSSINGS

Track Segment #: 101

Road Name: BRADLEY ROAD

Centerline Location: 36+48

Crossing Length: 24 ft

Crossing Type: ASPHALT

Bolted Joints (N or Y): Y

Comments:

Do you have more ROAD CROSSING INFORMATION to enter for this segment (Y/N) ?

ROAD NAME - This element is the name of the street or road that crosses the Track Segment. This field is fifteen characters long.

CENTERLINE LOCATION - This element is the Track Segment station location of the centerline of the road. It must be entered in the following format: 36+48. If the Centerline Location is not entered in this format, an error is displayed on the screen telling you the Centerline Location is invalid.

CROSSING LENGTH - This element is the length of the crossing in feet. It should be entered as an integer.

CROSSING TYPE - This element describes the type of crossing material used. This description may be up to ten characters long.

BOLTED JOINTS - This element has a **N** or **Y** response. Indicating whether there are Bolted Joints located within the road crossing. (N=NO, Y=YES)

COMMENTS - This element is 160 alphanumeric characters long. This space is provided for written comments, when necessary.

To enter the Road Crossings Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press [PGUP] to SKIP without adding this data.

Once all the Road Crossings elements have been entered correctly, press [**ESC**] to ADD this data. The computer will then ask you if you want to add more ROAD CROSSINGS INFORMATION for this same Track Segment. Enter **Y** or **N**. If you enter **Y**, the computer returns to the above ROAD CROSSINGS INFORMATION screen. If you enter **N**, the computer returns to the SELECT INFORMATION menu. See page 33.

Option **TURNOUTS** from the SELECT INFORMATION menu will display the following screen. The data requirements are explained below.

```
Press [ESC] to ADD this data -- [PGUP] to SKIP

                              TURNOUTS

                    Track Segment #:  101

   Turnout ID #: 1T5

   Switch Point Location: 49+28        Direction(LH, RH, or EQ): RH

   Point Length: 13.0  LF              Rail Weight: 90  lbs/yd

   Frog Type:  (BOLTED, SELF GUARDED, RAIL BOUND MANGANESE,
               or SPRING): BOLTED

    Frog size: 7                        Guard Rail Length: 11  LF

Comments:

Do you have more TURNOUT INFORMATION to enter for this segment (Y/N) ?
```

TURNOUT ID # - This element is the identifying number assigned to the turnout. This field is eight characters long.

SWITCH POINT LOCATION - This element is the Track Segment station where the point of switch is located. It should be entered in the following format: 49+28. If the Switch Point Location is not entered in this format, an error will be displayed on the screen telling you the Switch Point Location is invalid.

DIRECTION - This element describes whether the turnout diverges to the left (left handed), right (right handed), or in both directions (equilateral). It should be entered as **LH**, **RH**, or **EQ**. If Direction is entered as something other than one of these valid responses, an error message will be displayed on the screen.

POINT LENGTH - This element describes the length of the switch points in units of feet and tenths (rounded to the nearest half foot). This field is a real number.

RAIL WEIGHT - This element is the weight of the rail within the turnout in lbs/yd. This field is an integer.

FROG TYPE - This element describes the type of frog in the turnout. Valid entries are: BOLTED, SELF GUARDED, RAIL BOUND MANGANESE, OR SPRING. If Frog Type is entered as something other than one of these valid entries, an error will be displayed on the screen.

FROG SIZE - This element is the frog size number entered as an integer.

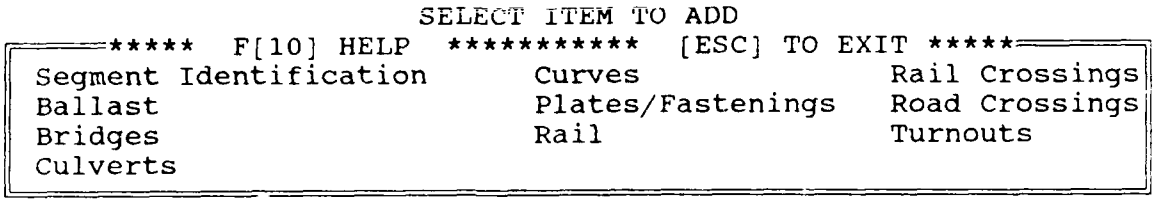
GUARD RAIL LENGTH - This element describes the length of the guard rails in linear feet. It should be entered as an integer.

COMMENTS - This element is 160 alphanumeric characters long. This space is provided for written comments, when necessary.

To enter the Turnout Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press **[PGUP]** to SKIP without adding this data.

Once all the Turnout elements have been entered correctly, press **[ESC]** to ADD this data. The computer will then ask you if you want to add more TURNOUTS INFORMATION for this same Track Segment. Enter **Y** or **N**. If you enter **Y**, the computer returns to the above TURNOUTS INFORMATION screen. If you enter **N**, the computer returns to the SELECT INFORMATION menu. See page 33.

Option (2) from the ADD NEW INFORMATION menu displays the following screen. Explanations of the options are below.



SELECT ITEM TO ADD

OPTIONS:

SEGMENT IDENTIFICATION	This table includes: TRACK SEGMENT NUMBER, BEGIN LOCATION, END LOCATION, TRACK CATEGORY, TRACK USE, TRACK RANK, PRECEDING SEGMENT NUMBER(S), and COMMENTS.
BALLAST	This table includes: TRACK SEGMENT NUMBER, DEPTH, and COMMENTS.
BRIDGES	This table includes: TRACK SEGMENT NUMBER, FACILITY NUMBER, CONSTRUCTION TYPE, DECK TYPE, and COMMENTS.
CULVERTS	This table includes: TRACK SEGMENT NUMBER, CENTERLINE LOCATION and COMMENTS.
CURVES	This table includes: TRACK SEGMENT NUMBER, CURVE ID NUMBER, CURVATURE, MAXIMUM DESIRED SPEED, and COMMENTS.
PLATES/FASTENINGS	This table includes: TRACK SEGMENT NUMBER, TIE PLATES, RAIL ANCHORS (#/200 TF), GAGE RODS, and COMMENTS.
RAIL	This table includes: TRACK SEGMENT NUMBER, WEIGHT, SECTION, BEGIN LOCATION, and COMMENTS.
RAIL CROSSINGS	This table includes: TRACK SEGMENT NUMBER, CENTERLINE LOCATION, CROSSING SEGMENT, RAIL WEIGHT, FROG TYPE, CROSSING ANGLE, and COMMENTS.

ROAD CROSSINGS	This table includes: TRACK SEGMENT NUMBER, ROAD NAME, CENTERLINE LOCATION, CROSSING LENGTH, CROSSING TYPE, BOLTED JOINTS, and COMMENTS.
TURNOUTS	This table includes: TRACK SEGMENT NUMBER, TURNOUT ID NUMBER, SWITCH POINT LOCATION, DIRECTION, POINT LENGTH, RAIL WEIGHT, FROG TYPE, FROG SIZE, GUARD RAIL LENGTH, and COMMENTS.
F[10]	This option displays a help screen.
[ESC]	This option returns to the ADD NEW INFORMATION menu on page 30.

Select the items from the menu which you wish to enter. If you are entering a new Track Segment, the Segment Identification must be entered first.

The screens for each item will appear the same as in the ADD ENTIRE TRACK SEGMENT SECTION of the manual, pages 31 through 48. The screens will have the following ADD options to choose from once you have entered the information and pressed **[ESC]**.

ADD	The information displayed on the screen is added to the database. Then a new screen is displayed ready for you to enter more data.
REUSE	The information displayed on the screen is added to the database. Then the same screen is displayed with the same values so that you may reuse the same values in your next entry, instead of typing them all in again.
EDIT	The information displayed on the screen may be changed. Press [E] and modify the information. When you are done, press the **[ESC]** key to return to the ADD command menu and choose one of the other options: **ADD** or **REUSE**.
QUIT	This option terminates the ADD mode.

Once you are done entering all the items of information press **[ESC]** to exit to the ADD NEW INFORMATION menu on page 30.

Edit Track Segment Inventory Information

Option (2) from the TRACK SEGMENT INFORMATION menu displays the following menu. Explanations of the options are below.

SELECT INFORMATION YOU WANT TO EDIT

***** F[10] HELP ********** [ESC] TO EXIT *****

Segment Identification	Curves	Rail Crossings
Ballast	Plates/Fastenings	Road Crossings
Bridges	Rail	Turnouts
Culverts		

Select the item you wish to edit and press **ENTER**. The computer will then ask for a Track Segment Number or a Facility Number or both of the item you wish to edit. Enter the correct response and press **ENTER**, or leave it blank and simply press **ENTER** to start with the first Track Segment Number. Refer to pages 31 through 48 for more information about the elements within each item.

Make any changes you wish to the information and then press [ESC]. The command line in the upper left corner of your screen will change to display seven EDIT options:

SKIP The information displayed on the screen is not modified and the next row in the table is displayed.

EDIT The information displayed on the screen may be changed. Press [E] and modify the information. When you are done, press the [ESC] key to return to the EDIT command line. At this point the information displayed on the screen has not been saved in the database. Choose one of the other options: **CHANGE**, **ADD**, **RESET**, or **DELETE**.

CHANGE The modified information on the screen is saved and the next row in the table is displayed.

ADD The information displayed on the screen is added as a new row to the database and the original row is left unchanged. You now have two rows of information. Then a new screen is displayed ready for you to enter more data.

RESET The information displayed on the screen is not saved. The computer ignores the modifications you made to the row and resets the row to its original values. If the change or add options have already been entered, will not recall the original values.

DELETE The information displayed on the screen is deleted from the database when you confirm the command. Then the next row in the table is displayed.

QUIT This option terminates the EDIT mode.

The following page is a sample Track Segment Inventory Collection form. The inventory information is collected in the field on these forms. Then the information is entered into the computer from these forms.

TRACK SEGMENT _____ RAILER I DATE _____
INSTALLATION NAME _____ TRACK SEGMENT INVENTORY INFORMATION

SEGMENT IDENTIFICATION						BALLAST
Begin Location (Station)	End Location (Station)	Track Category	Track Use	Track Rank	Preceding Track Segment Number (s)	Depth (inches)
		A B	Acc Aux L Se St			
Comments						Comments

BRIDGES			CULVERTS	CURVES										
Facility Numbe	Construction Type	Deck Type	Centerline Location (Station)	Curve ID Number	Curvature (Degrees)									Max Desired Speed (m.p.h.)
					1	2	3	4	5	6	7	8	Avg	
		Open Ballast Open Ballast												
Comments			Comments	Comments										

PLATES/FASTENINGS			RAIL			RAIL CROSSINGS				
Tie Plates	Rail Anchors ($/200TF)	Gage Rods	Weight (lbs/yd)	Section	Begin Location (Station)	Centerline Location (Station)	Crossing Segment Number	Rail Weight (lbs/yd)	Frog Type	Crossing Angle (degree)
N Y N Y N Y N Y		N Y N Y N Y N Y							B MI SM B MI SM B MI SM B MI SM	
Comments			Comments			Comments				

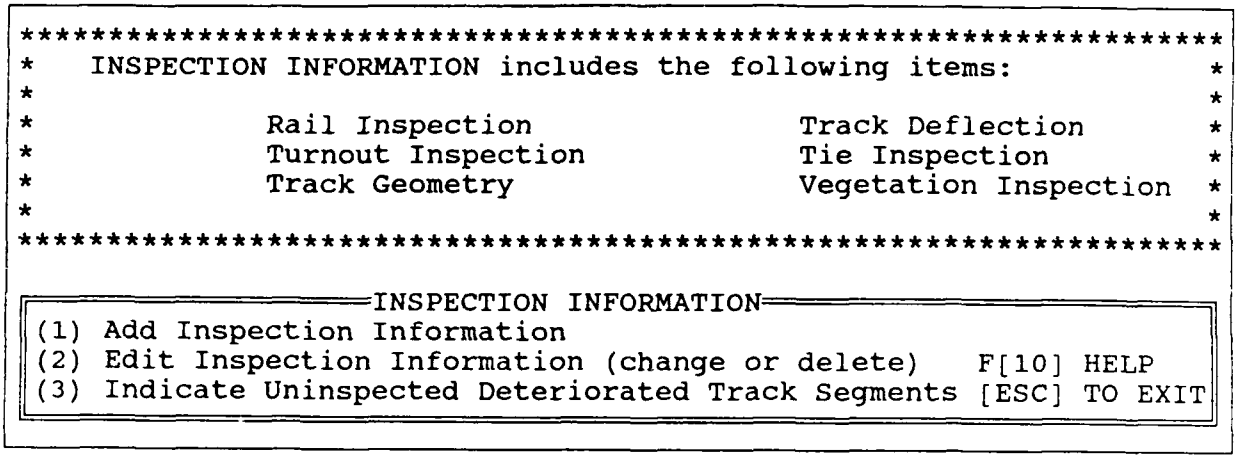
ROAD CROSSINGS				
Road Name	Centerline Location (Station)	Crossing Length (feet)	Crossing Type	Bolted Joints
				N Y N Y N Y
Comments				

TURNOUTS							
Turnout ID Number	Switch Point Location (Station)	Direction	Point Length (LF)	Rail Weight (lbs/yd)	Frog Type	Frog Size	Guard Rail Length (LF)
		LH EQ RH LH EQ RH			B S6 RBM SP B SG RBM SP		
Comment							

12/15/86

4.3 Track Segment Inspection Information

Option (3) from the UPDATE INFORMATION menu displays the following menu. Explanations of the options are below.



INSPECTION INFORMATION

OPTIONS:

(1) ADD INSPECTION INFORMATION - This option allows you to add Inspection Information to the database. Inspection Information includes: Rail Inspection, Tie Inspection, Track Deflection, Track Geometry, Turnout Inspection, and Vegetation Inspection. It can not be used to edit existing information. If this option is selected the menu on page 55 appears.

(2) EDIT INSPECTION INFORMATION - This option allows you to change or delete existing inspection information. See option 1 for items. If this option is selected the menu on page 75 appears.

(3) INDICATE UNINSPECTED DETERIORATED TRACK SEGMENTS - This option allows you to indicate the Track Segments which were not inspected due to the extreme deterioration of the track. See page 78.

F[10] This option displays a help screen.

[ESC] This option returns to the UPDATE INFORMATION menu. See page 15.

Add Track Segment Inspection Information

Option **(1)** from the INSPECTION INFORMATION menu displays the following menu. Explanations of the options are below. This option should be used when adding information from subsequent inspections.

ADD INSPECTION INFORMATION

** F[10] HELP ***** SELECT INFORMATION ***** [ESC] TO EXIT **		
Rail Inspection	Track Deflection	Turnout Inspection
Tie Inspection	Track Geometry	Vegetation Inspection

ADD INSPECTION INFORMATION

OPTIONS:

RAIL INSPECTION — This table includes: TRACK SEGMENT NUMBER, DATE, LOCATION, RAIL, DEFECT TYPE, and COMMENTS. See page 57.

TIE INSPECTION — This table includes: TRACK SEGMENT NUMBER, DATE, NUMBER OF 2 CONSECUTIVE DEFECTIVE TIES, NUMBER OF 3 CONSECUTIVE DEFECTIVE TIES, NUMBER OF 4 CONSECUTIVE DEFECTIVE, NUMBER OF 5 OR MORE CONSECUTIVE DEFECTIVE TIES, NUMBER OR JOINT TIES DEFECTIVE, NUMBER OF TIES WHICH HAVE AVERAGE SPACING MORE THAN 22 INCHES, NUMBER OF SKEWED TIES, NUMBER OF MISSING/ BUNCHED/ BADLY SKEWED TIES, TOTAL NUMBER OF DEFECTIVE TIES, and COMMENTS. See page 59.

TRACK DEFLECTION — This table includes: TRACK SEGMENT NUMBER, DATE, LOCATION, WHEEL LOAD, TRACK DEFLECTION, and TRACK MODULUS. See page 61.

TRACK GEOMETRY	This table includes: TRACK SEGMENT NUMBER, DATE, LOCATION, CURVE ID NUMBER, TURNOUT ID NUMBER, GAGE, CROSS LEVEL, and WARP. This option allows you to load automated Track Geometry measurements into your database from floppy diskettes. This Geometry Information is generated by the use of automated track equipment, then the data is analyzed and written onto floppy diskettes which then may be transferred into the RAILER I database. This option transfers the information on these floppy diskettes into your database. See page 63.
TURNOUT INSPECTION	This table includes: TRACK SEGMENT NUMBER, DATE, TURNOUT ID NUMBER, GENERAL DEFECTS, TIE DEFECTS, COMPONENT DEFECTS, GAGE and FLANGEWAY MEASUREMENTS, and COMMENTS. See page 65.
VEGETATION INSPECTION	This table includes: TRACK SEGMENT NUMBER, DATE, NUMBER OF DEFECTS PER 200 TRACK FEET and COMMENTS. See page 73.
F[10]	This option displays a help screen.
[ESC]	This option returns to the INSPECTION INFORMATION menu on page 54.

Option **RAIL INSPECTION** from the ADD INSPECTION INFORMATION menu displays the following screen. The data requirements are explained below.

```
Press [ESC] to ADD this data -- [PGUP] to SKIP
                        RAIL INSPECTION

        Track Segment #:  401          Date (MM/DD/YY):  3/26/87
        Location:  10+23               Rail:  R
                              Defect Type:  17
                      RAIL DEFECT TYPES
  1 = Bolt Hole Crack          14 = Split Head - Horizontal
  2 = Broken Base              15 = Split Head - Vertical
  3 = Corroded Base            16 = Split Web
  4 = Complete Break           17 = Torch Cut
  5 = Crushed Head             18 = Wear - Side (>1/2")
  6 = Defective Weld           19 = Wear - Vertical (>1/2")
  7 = End Batter (>1/4")       20 = Overflow
  8 = Fissure - Compound       21 = Shelling
  9 = Fissure - Transverse     22 = Corrugation
 10 = Fracture - Detail        23 = Chip/Dent in Head
 11 = Fracture - Engine Burn   24 = Engine Burn
 12 = Head/Web Separation      25 = Flaking
 13 = Piped Rail               26 = Rail Weight Insufficient for
                                    Mission

Comments:
```

TRACK SEGMENT # - This element is an eight character alphanumeric code assigned for Track Segment Identification. This is a required element. If the Track Segment Number is not entered an error message will appear telling you the Track Segment Number is required. This Track Segment must also already be defined in the inventory. If it is not, an error message will be displayed on the screen telling you that the Track Segment Number must be identified. If the Track Segment Number is not identified in the inventory you must enter it in the Track Segment Inventory before inspection information may be entered.

DATE - This element is the date when the inspection was completed. It must be entered in the following format: MM/DD/YY and it is a required element. If this field is left blank, an error will be displayed on the screen telling you the data is required.

LOCATION - This element is the track station marking where the defect is located. It should be entered in the following format: 10+23. If the location is not entered in this format, an error will be displayed on the screen.

RAIL - This element indicates which rail is defective. Enter **L** for the left rail or **R** for the right rail.

DEFECT TYPE - This element is the code of the defect found. Enter defect numbers 1 through 26.

COMMENTS - This element is 80 alphanumeric characters long. This space is provided for written comments, when necessary.

To enter the Rail Inspection Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press [PGUP] to SKIP without adding this data.

Once all the Rail Inspection elements have been entered correctly, press [**ESC**] to ADD this data. The computer will then ask you if you want to add more RAIL INSPECTION for either the same or another Track Segment. Enter **Y** or **N**. If you enter **Y**, the computer returns to the above RAIL INSPECTION screen ready for more RAIL INSPECTION to be entered. If you enter **N**, the computer returns to the ADD INSPECTION INFORMATION menu. See page 55.

Option **TIE INSPECTION** from the ADD INSPECTION INFORMATION menu displays the following screen. The data requirements are explained below.

Press [**ESC**] when done with this data -- [**PGUP**] to SKIP

TIE INSPECTION

Track Segment #: 1001 Inspection Date: 3/30/87

	Number of Occurrences
2 Consecutive Defective Ties:	22
3 Consecutive Defective Ties:	9
4 Consecutive Defective Ties:	1
5 or more Consecutive Defective Ties: . . .	1
All Joint Ties Defective:	0
Average Spacing More than 22 inches: . . .	0
Skewed Ties:	2
Missing, Bunched, Badly Skewed Ties: . . .	0

Total Defective Ties: 153

Comments:

TRACK SEGMENT # - This element is an eight character alphanumeric code assigned for Track Segment Identification. This is a required element. If the Track Segment Number is not entered an error message will appear telling you the Track Segment Number is required. This Track Segment must also already be defined in the inventory. If it is not, an error message will be displayed on the screen telling you that the Track Segment Number must be identified. If the Track Segment Number is not identified in the inventory you must enter it in the Track Segment Inventory before inspection information may be entered.

DATE - This element is the date when the inspection was completed. It must be entered in the following format: MM/DD/YY, and it is a required element. If the date is not entered, an error message will be displayed on the screen.

2 CONSECUTIVE DEFECTIVE TIES - Enter the number of occurrences of two consecutive defective ties. This field is an integer.

3 CONSECUTIVE DEFECTIVE TIES - Enter the number of occurrences of three consecutive defective ties. This field is an integer.

4 CONSECUTIVE DEFECTIVE TIES - Enter the number of occurrences of four consecutive defective ties. This field is an integer.

5 OR MORE CONSECUTIVE DEFECTIVE TIES - Enter the number of occurrences of five or more consecutive defective ties. This field is an integer.

ALL JOINT TIES DEFECTIVE - Enter the number of occurrences of joint ties defective. This field is an integer.

AVERAGE SPACING MORE THAN 22 INCHES - Enter the number of occurrences of where the average spacing of the ties is more than 22 inches.

SKEWED TIES - Enter the number of occurrences of skewed ties. This field is an integer.

MISSING, BUNCHED, BADLY SKEWED TIES - Enter the number of occurrences of missing, bunched, or badly skewed ties. This field is an integer.

TOTAL DEFECTIVE TIES - Enter the total number of defective ties. This field is an integer.

COMMENTS - This element is 80 alphanumeric characters long. This space is provided for written comments, when necessary.

To enter the Tie Inspection Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press [PGUP] to SKIP without adding this data.

Once all the Tie Inspection elements have been entered correctly, press [ESC] to ADD this data. The computer will then ask you if you want to add more TIE INSPECTION for another Track Segment. Enter **Y** or **N**. If you enter **Y**, the computer returns to the above TIE INSPECTION screen ready for more TIE INSPECTION to be entered. If you enter **N**, the computer returns to the ADD INSPECTION INFORMATION menu. See page 55.

Option **TRACK DEFLECTION** from the ADD INSPECTION INFORMATION menu displays the following screen. The data requirements are explained below.

```
Press [ESC] when done with this data

                    TRACK DEFLECTION

                    Track Segment #: 101

                    Date  (MM/DD/YY): 3/12/87

                    Location: 12+90

                    Wheel Load:  33000 lbs

                    Track Deflection: 0.6 Inches

                    Track Modulus:  900 psi
```

TRACK SEGMENT # - This element is an eight character alphanumeric code assigned for Track Segment Identification. This is a required element. If the Track Segment Number is not entered an error message will appear telling you the Track Segment Number is required. This Track Segment must also already be defined in the inventory. If it is not, an error message will be displayed on the screen telling you that the Track Segment Number must be identified. If the Track Segment Number is not identified in the inventory you must enter it in the Track Segment Inventory before Inspection Information may be entered.

DATE - This element is the date when the inspection was completed. It must be entered in the following format: MM/DD/YY, and it is a required element. If the date is not entered, an error message will be displayed on the screen.

LOCATION - This element is the track station marking where the Track Deflection is located. It should be entered in the following format: 12+90. If the Location is not entered in this format, an error message will be displayed on the screen.

WHEEL LOAD- This element is the weight of the car plus the weight of the load divided by the number of wheels on the car. This field is an integer.

TRACK DEFLECTION - This element is the amount of the vertical deflection of the rail under loading. This field is an integer.

TRACK MODULUS - This element is load per inch of the rail length required to depress that rail by one inch. This field is an integer.

To enter the Track Deflection Information press **ENTER** or use the **TAB** key to move to the next field on the screen.

Once all the Track Deflection elements have been entered correctly, press **[ESC]**. When entering this data the command line in the upper left corner will change to display four ADD options. See page 22 for an explanation of the ADD options. Select the correct option and press **ENTER.**

Option **TRACK GEOMETRY** from the ADD INSPECTION INFORMATION menu displays the following screen.

```
This process adds Automated Track Geometry to your database.

Do you want to continue (Y/N) ?
```

This process will add Automated Track Geometry, collected from the Transportation System Center (TSC) Track Geometry Cart, to your RAILER I database. This information is collected from automated track geometry equipment. The data is then analyzed and written onto floppy diskettes which then are given to you. These floppy diskettes contain one data file called TSCDATA.ASC.

Enter **Y** and press **ENTER** to continue. The following screen is displayed.

Enter **N** and press **ENTER** to return to the ADD INSPECTION INFORMATION menu on page 55.

```
Insert Diskette with your Automated Track Geometry Information
into Drive B:

If you do not have a Drive B insert your Diskette into Drive A

Press any key to continue.
```

Insert the data diskette with your Track Geometry Information into Drive B. If you do not have a Drive B, then insert your diskette into Drive A and press any key to continue.

The computer then checks to see if the necessary file called TSCDATA.ASC is available and if it can be read. If the file has errors the computer will display the following message: UNABLE TO ACCESS FILE NAME TSCDATA.ASC ON YOUR DISKETTE PROCESS WAS ABORTED! This message may be caused for several reasons: the diskette may be bad, the file may not exist, the diskette may not have been inserted into the diskette drive properly, or some other fault may be present. Press any key to continue and the computer will automatically return to the previous menu. If you are unable to resolve the error, contact your customer support representative.

If the file is error free, the computer will then load your Automated Track Geometry into your database. Once the computer has completed loading that data the following screen will appear.

```
Do you have more Diskettes with Automated Track Geometry
Information to Load (Y/N) ?
```

Enter **Y** and press **ENTER**, if you have more diskettes to load.

Enter **N** and press **ENTER**, if you do not have more diskettes to load. The following screen will appear once you have all your diskettes loaded.

```
Enter Date the Automated Track Geometry was collected.
(MM/DD/YY): 3/12/87
```

Enter the date the Track Geometry was collected in the format (MM/DD/YY) and press **ENTER**. Make sure the date entered is valid. The computer will not check this date to see if it is valid. The computer is now creating a TRACK GEOMETRY SUMMARY File. This file includes TRACK SEGMENT NUMBER, DATE, the PERCENTAGES FOR GAGE, CROSS LEVEL, and WARP that are in the No Defects category, No Restrictions category, 10 mph category, 5 mph category, and Out of Service category.

Once the computer is completed creating the Track Geometry Summary File the computer deletes all the data which is in the NO DEFECTS category and stores only the defect data. The computer will then return to the ADD INSPECTION INFORMATION menu on page 55.

Option **TURNOUT INSPECTION** from the ADD INSPECTION INFORMATION menu displays the following screens. The TURNOUT INSPECTION form has three screens. The following screen is page 1. The data requirements are explained below.

```
Press [PGDN] to go to Page 2 -- [ESC] to QUIT
                                                        Page 1
                        TURNOUT INSPECTION
Track Segment #: 101                  Date (MM/DD/YY):3/12/87
Turnout #: 1T1
                          General

 Rail Weight changes within Turnout limits (N/Y): Y
 Reversing Tangent Past Frog Less than 50 Feet (N/Y): N
 Switch Difficult to Operate (N/Y): Y

 Line & Surface (Good, Fair, or Poor): FAIR

                           Ties

 # of Defective Ties in a Row (worst case): 8
 # of Occurrences where Joint Ties are Defective: 2
 # of Occurrences where Tie Spacing > 22 in.: 3
 # of Skewed Ties: 0
 # of Missing/Bunched/Badly Skewed Ties: 0

 TOTAL # of Defective Ties: 60
```

RAIL WEIGHT CHANGES WITHIN TURNOUT LIMITS - This element is a **Y** or **N** response indicating whether there is a change in rail weight within the turnout limits.

REVERSING TANGENT PAST FROG LESS THAN 50 FEET - This element is a **Y** or **N** response indicating whether the turnout track curves towards the straight track less than 50 feet from the point of frog.

SWITCH DIFFICULT TO OPERATE - This element is a **Y** or **N** response indicating whether the turnout switch is difficult to operate.

LINE & SURFACE - This element indicates whether the track has **GOOD**, **FAIR**, or **POOR** line and surface.

OF DEFECTIVE TIES IN A ROW - This element is an integer which indicates the largest number of defective ties in a row within the turnout.

OF OCCURRENCES WHERE JOINT TIES ARE DEFECTIVE - This element is an integer which indicates the number of occurrences where joint ties are defective.

OF OCCURRENCES WHERE TIE SPACING > 22 IN. - This element is an integer which indicates the number of occurrences where the tie spacing is greater than 22 inches.

OF SKEWED TIES - This element is an integer which indicates the number of skewed ties.

OF MISSING/BUNCHED/BADLY SKEWED TIES - This element is an integer which indicates the number of ties which are missing, bunched, or badly skewed.

TOTAL # OF DEFECTIVE TIES - This element is an integer which indicates the total number of defective ties within the turnout which need to be replaced.

To enter the first page of the Turnout Inspection Information press **ENTER** of use the **TAB** key to move to the next field on the screen.

Once all the information on page 1 has been entered, press [**PGDN**] to go to page 2 (See page 67) or press [**ESC**] to quit and return to the previous menu without adding any Turnout Inspection Information.

Page 2 of the **TURNOUT INSPECTION** form

Press [PGUP] to go to Page 1 -- [PGDN] to go to Page 3

TURNOUT INSPECTION Page 2

Track Segment #: 101
Turnout ID #: 1T1
Date: 3/12/87

	No Defects (X)	Improper Size (Y or #)	Loose (Y or #)	Chipped/ Worn/Bent (Y or #)	Missing (Y or #
Switch Stand	X				
Point Lock/Lever Latch	X				
Connecting Rod			Y		
Switch Point - Left				Y	
Switch Point - Right				Y	
Switch Rods	X	0	0	0	0
Clip Bolts		0	3	0	0
Slide Plates	X	0	0	0	0
Braces		0	2	0	1
Heel Filler & Bolts		0	0	1	0
Cotter Keys		0	0	0	4
Point & Top Surface Bolts		0	0	Y 0	2
Guard Rails	X	0	0	0	0
Filler & Bolts		0	0	0	2

For each component in the left hand column, enter the appropriate notation in the columns at the right.

SWITCH STAND - If the SWITCH STAND has NO DEFECTS enter an **X** under the NO DEFECTS column and leave the other columns blank. If the SWITCH STAND is defective enter a **Y** under the column which best describes its defect. The only valid entry under the NO DEFECTS column is an **X** or leaving it blank. If something other than an **X** or a blank is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

POINT LOCK/LEVER LATCH - If the POINT LOCK/LEVER LATCH has NO DEFECTS enter an **X** under the NO DEFECTS column and leave the other columns blank. If the POINT LOCK/LEVER LATCH is defective enter a **Y** under the column which best describes its defect. The only valid entry under the NO DEFECTS column is an **X** or leaving it blank. If something other than an **X** is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

CONNECTING ROD - If the CONNECTING ROD has NO DEFECTS enter an X under the NO DEFECTS column and leave the other columns blank. If the CONNECTING ROD is defective enter a Y under the column which best describes its defect. The only valid entry under the NO DEFECTS column is an X or leaving it blank. If something other than an X is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

SWITCH POINT - LEFT - If the LEFT SWITCH POINT has NO DEFECTS enter an X under the NO DEFECTS column and leave the other columns blank. If the LEFT SWITCH POINT is defective enter a Y under the column which best describes its defect. The only valid entry under the NO DEFECTS column is an X or leaving it blank. If something other than an X is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

SWITCH POINT - RIGHT - If the RIGHT SWITCH POINT has NO DEFECTS enter an X under the NO DEFECTS column and leave the other columns blank. If the RIGHT SWITCH POINT is defective enter a Y under the column which best describes its defect. The only valid entry under the NO DEFECTS column is an X or leaving it blank. If something other than an X is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

SWITCH RODS - If the 'ITCH RODS have NO DEFECTS enter an X under the NO DEFECTS column and leave the other columns blank. If the SWITCH RODS are defective enter the number of rods defective under the columns which best describes their defects. The only valid entry under the NO DEFECTS column is an X or leaving it blank. If something other than an X is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

CLIP BOLTS - If the CLIP BOLTS have NO DEFECTS enter an X under the NO DEFECTS column and leave the other columns blank. If the CLIP BOLTS are defective enter the number of bolts defective under the columns which best describes their defects. The only valid entry under the NO DEFECTS column is an X or leaving it blank. If something other than an X is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

SLIDE PLATES - If the SLIDE PLATES have NO DEFECTS enter an X under the NO DEFECTS column and leave the other columns blank. If the SLIDE PLATES are defective enter the number of plates defective under the columns which best describes their defects. The only valid entry under the NO DEFECTS column is an X or leaving it blank. If something other than an X is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

BRACES - If the BRACES have NO DEFECTS enter an X under the NO DEFECTS column and leave the other columns blank. If the BRACES are defective enter the number of braces defective under the columns which best describes their defects. The only valid entry under the NO DEFECTS column is an X or leaving it blank. If something other than an X is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

HEEL FILLER & BOLTS - If the HEEL FILLER & BOLTS have NO DEFECTS enter an X under the NO DEFECTS column and leave the other columns blank. If the HEEL FILLER & BOLTS are defective enter the number defective under the columns which best describes their defects. The only valid entry under the NO DEFECTS column is an X or leaving it blank. If something other than an X is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

COTTER KEYS - If the COTTER KEYS have NO DEFECTS enter an X under the NO DEFECTS column and leave the other columns blank. If the COTTER KEYS are defective enter the number defective under the columns which best describes their defects. The only valid entry under the NO DEFECTS column is an X or leaving it blank. If something other than an X is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

POINT & TOP SURFACE - If the TOP & TOP SURFACE has NO DEFECTS enter an X under the NO DEFECTS column and leave the other columns blank. If the POINT & TOP SURFACE is defective enter a Y under the column which best describes its defect. The only valid entry under the NO DEFECTS column is an X or leaving it blank. If something other than an X is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

BOLTS - If the BOLTS have NO DEFECTS enter an **X** under the NO DEFECTS column and leave the other columns blank. If the BOLTS are defective enter the number defective under the columns which best describes their defects. The only valid entry under the NO DEFECTS column is an **X** or leaving it blank. If something other than an **X** is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

GUARD RAILS - If the GUARD RAILS have NO DEFECTS enter an **X** under the NO DEFECTS column and leave the other columns blank. If the GUARD RAILS are defective enter the number defective under the columns which best describes their defects. The only valid entry under the NO DEFECTS column is an **X** or leaving it blank. If something other than an **X** is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

FILLER & BOLTS - If the FILLER & BOLTS have NO DEFECTS enter an **X** under the NO DEFECTS column and leave the other columns blank. If the GUARD RAILS are defective enter the number defective under the columns which best describes their defects. The only valid entry under the NO DEFECTS column is an **X** or leaving it blank. If something other than an **X** is entered an error will appear on the screen. If a blank is entered the computer saves the blank as a dash (-).

To enter the second page of the Turnout Inspection Information press **ENTER** or use the **TAB** key to move to the next field on the screen.

Once all the Turnout Inspection elements for page 2 have been entered correctly, press **[PGUP]** to return to page 1 of the Turnout Inspection form or press **[PGDN]** to go to page 3 of the Turnout Inspection form.

Page 3 of the **TURNOUT INSPECTION** form.

```
Press [ESC] to ADD this data -- [PGUP] to go back to Page 2
Track Segment #: 101   TURNOUT INSPECTION                Page 3
Turnout ID #: 1T1
Date: 3/12/87
                                   STRAIGHT SIDE        TURNOUT SIDE

F   Gage at Point:                    57.2 "               57.2 "
R   Guard Check Gage:                 54.4 "               54.2 "
O   Guard Face Gage:                  53.1 "               53.1 "
G   Flangeway Width:                   1.6 "                1.8 "
    Flangeway Depth:                   1.6 "                1.8 "

G R
U A
A I Flangeway Width:                   1.6 "                1.6 "
R L
D S

O
T   Gage at Switch Points:            57.6 "
H   Gage at Joints in Curved Closure Rails: 57.2 "              "
E
R
Comments:
```

GAGE AT POINT - Enter the FROG GAGE AT POINT measurement, in inches, straight side and the turnout side of the turnout.

GUARD CHECK GAGE - Enter the FROG GUARD CHECK GAGE measurement, in inches, on the straight side and the turnout side of the turnout.

GUARD FACE GAGE - Enter the FROG GUARD FACE GAGE measurement, inches, on the straight side and the turnout side of the turnout.

FLANGEWAY WIDTH - Enter the FROG FLANGEWAY WIDTH measurement, in inches, on the straight side and the turnout side of the turnout.

FLANGEWAY DEPTH - Enter the FROG FLANGEWAY DEPTH measurement, in inches, on the straight side and the turnout side of the turnout.

FLANGEWAY WIDTH - Enter the GUARD RAILS FLANGEWAY WIDTH measurement, in inches, on the straight side and the turnout side of the turnout.

GAGE AT SWITCH POINTS - Enter the GAGE AT SWITCH POINTS measurement in inches.

GAGE AT JOINTS IN CURVED CLOSURE RAILS - Enter the GAGE AT JOINTS IN THE CURVED CLOSURE RAILS in inches.

To enter the third page of the Turnout Inspection Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press [**PGUP**] to return to page 2.

Once all the Turnout Inspection elements have been entered correctly on all three pages, press [**ESC**] to ADD this data. The Inspection information is then added to your database. The computer will then ask you if you want to add more TURNOUT INSPECTION for either the same or another Track Segment. Enter **Y** or **N**. If you enter **Y**, the computer returns to page 1 of the TURNOUT INSPECTION screen. If you enter **N**, the computer returns to the ADD INSPECTION INFORMATION menu. See page 55.

Option **VEGETATION INSPECTION** from the ADD INSPECTION INFORMATION menu displays the following screen. The data requirements are explained below.

Press **[ESC]** to ADD this data -- **[PGUP]** to SKIP

VEGETATION INSPECTION

Track Segment #: 101 Date (MM/DD/YY):3/12/87

Defects	Total Left	Total Center	Total Right
No Defects	11	9	10
Insufficient, where needed	5	0	2
Growing in Ballast	0	15	0
Prevents Track Inspection.	1	2	2
Interferes with Walking.	1	0	2
Interferes with Visibility of Signs.	2	0	5
Brushes sides of Rolling Stock	4	1	6
Interferes with Trains or Track Vehicles	1	0	0
Presents a Fire Hazard	1	1	1

Comments:

TRACK SEGMENT # - This element is an eight character alphanumeric code assigned for Track Segment Identification. This is a required element. If the Track Segment Number is not entered an error message will appear telling you the Track Segment Number is required. This Track Segment must also already be defined in the inventory. If it is not, an error message will be displayed on the screen telling you that the Track Segment Number must be identified. If the Track Segment Number is not identified in the inventory you must enter it in the Track Segment Inventory before inspection information may be entered.

DATE - This element is the date when the inspection was completed. It must be entered in the following format, MM/DD/YY, and it is a required element. If the date is not entered, an error message will be displayed on the screen.

LEFT TOTAL - These elements are the total number of defects (on a 200 TF basis) within the Track Segment for each defect type on the left of the screen under the column heading DEFECTS. The number of defects entered in each category is computed into a percentage of defects found on the Track Segment. This percentage is then stored in the database, not the actual number of defects found.

CENTER TOTAL - These elements are the total number of defects (on a 200 TF basis) within the Track Segment for each defect type on the left of the screen under the column heading DEFECTS. The number of defects entered in each category is computed into a percentage of defects found on the Track Segment. This percentage is then stored in the database, not the actual number of defects found.

RIGHT TOTAL - These elements are the total number of defects (on a 200 TF basis) within the Track Segment for each defect type on the left of the screen under the column heading DEFECTS. The number of defects entered in each category is computed into a percentage of defects found on the Track Segment. This percentage is then stored in the database, not the actual number of defects found.

COMMENTS - This element is 80 alphanumeric characters long. This space is available for written comments, when necessary.

To enter the Vegetation Inspection Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press [**PGUP**] to SKIP without adding this data.

Once all the Vegetation Inspection elements have been entered correctly, press [ESC] to ADD this data. The computer will then ask you if you want to add more VEGETATION INSPECTION for another Track Segment. Enter **Y** or **N**. If you enter **Y**, the computer returns to the above VEGETATION INSPECTION screen. If you enter **N**, the computer returns to the ADD INSPECTION INFORMATION menu. See page 55.

Edit Track Segment Inspection Information

Option **(2)** from the INSPECTION INFORMATION menu displays the following menu. Explanations of the options are below. This option is used to change existing inspection or delete existing inspection information as appropriate.

EDIT INSPECTION INFORMATION

** F[10] HELP ***** SELECT INFORMATION ***** [ESC] TO EXIT **		
Rail Inspection	Track Deflection	Turnout Inspection
Tie Inspection	Track Geometry	Vegetation Inspection

EDIT INSPECTION INFORMATION

OPTIONS:

RAIL INSPECTION — This option allows you to change or delete RAIL INSPECTION Information. This table includes: TRACK SEGMENT NUMBER, DATE, LOCATION, RAIL, DEFECT TYPE, and COMMENTS. See page 57.

TIE INSPECTION — This option allows you to change or delete TIE INSPECTION Information. This table includes: TRACK SEGMENT NUMBER, DATE, NUMBER OF 2 CONSECUTIVE DEFECTIVE TIES, NUMBER OF 3 CONSECUTIVE DEFECTIVE TIES, NUMBER OF 4 CONSECUTIVE DEFECTIVE TIES, NUMBER OF 5 OR MORE CONSECUTIVE DEFECTIVE TIES, NUMBER OF JOINT TIES DEFECTIVE, NUMBER OF TIES WHICH HAVE AVERAGE SPACING MORE THAN 22 INCHES, NUMBER OF SKEWED TIES, NUMBER OF MISSING/ BUNCHED/ BADLY SKEWED TIES, TOTAL NUMBER OF DEFECTIVE TIES, and COMMENTS. See page 59.

TRACK DEFLECTION — This option allows you to change or delete TRACK DEFLECTION Information. This table includes: TRACK SEGMENT NUMBER, DATE, LOCATION, WHEEL LOAD, TRACK DEFLECTION, and TRACK MODULUS. See page 61.

TRACK GEOMETRY	This option allows you to delete TRACK GEOMETRY Information. This table includes: TRACK SEGMENT NUMBER, DATE, LOCATION, CURVE ID NUMBER, GAGE, CROSS LEVEL, and WARP. This option deletes all Track Geometry Information in your database. It does not allow you to edit the information. If new Track Geometry Information is to be added to your database, you should delete the old data before adding the new Track Geometry. This will save disk storage space. If you try to keep the old Track Geometry along with the new Track Geometry, your hard disk will run out of space.
TURNOUT INSPECTION	This option allows you to change or delete TURNOUT INSPECTION Information. This table includes: TRACK SEGMENT NUMBER, DATE, TURNOUT ID NUMBER, GENERAL DEFECTS, TIE DEFECTS, COMPONENT DEFECTS, GAGE and FLANGEWAY MEASUREMENTS, and COMMENTS. See page 65.
VEGETATION INSPECTION	This option allows you to change or delete VEGETATION INSPECTION Information. This table includes: TRACK SEGMENT NUMBER, PERCENTAGE OF DEFECTS FOR EACH VEGETATION INSPECTION CATEGORY and COMMENTS. See page 73.
F[10]	This option displays a help screen.
[ESC]	This option returns to the INSPECTION INFORMATION menu on page 54.

Select the item you wish to edit and press **ENTER**. The computer will then ask for a Track Segment Number of the item you wish to edit. Enter the correct Track Segment Number and press **ENTER** or leave it blank and simply press **ENTER** to start with the first Track Segment Number. The Track Segment Numbers will appear in alphabetical order. If there are not any more Track Segment Numbers available, the computer returns to the above menu automatically. If a Track Segment Number is found, that Track Segment Number will be displayed on the screen.

Make any changes you wish to the information and then press [ESC]. The command line in the upper left corner of your screen will change to display seven edit options. Explanations of the seven edit options are as follows.

SKIP — The information displayed on the screen is not modified and the next row in the table is displayed.

EDIT — The information displayed on the screen may be changed. Press [E] and modify the information. When you are done, press the [ESC] key to return to the EDIT command line. At this point the information displayed on the screen has not been saved in the database. Choose one of the other options: **CHANGE**, **ADD**, **RESET**, or **DELETE**.

CHANGE — The modified information on the screen is saved and the next row in the table is displayed.

ADD — The information displayed on the screen is added as a new row to the database and the original row is left unchanged. You now have two rows of information. Then a new screen is displayed ready for you to enter more data.

RESET — The information displayed on the screen is not saved. The computer ignores the modifications you made to the row and resets the row to its original values. If the change or add options have already been entered, it will not recall the original values.

DELETE — The information displayed on the screen is deleted from the database when you confirm the command. Then the next row in the table is displayed.

QUIT — This option terminates the EDIT mode.

Use the arrow keys, or the space bar to move the cursor to the correct EDIT option from the command line and press **ENTER**.

Indicate Uninspected Deteriorated Track Segments

Option (3) from the INSPECTION INFORMATION menu displays the following menu. Explanations of the options are below. The option is used to indicate Track Segments that are in such bad condition that a detailed inspection is unnecessary.

```
**** F[10] HELP ***** SELECT INFORMATION ***** [ESC] TO EXIT ****
 (1) Add Uninspected Deteriorated Track Segments     F[10] HELP
 (2) Edit Uninspected Deteriorated Track Segments    [ESC] TO EXIT
```

INDICATE UNINSPECTED DETERIORATED TRACK SEGMENTS

OPTIONS:

(1) ADD UNINSPECTED DETERIORATED TRACK SEGMENTS - This option allows you to enter Track Segment Numbers which are deteriorated. See page 79.

(2) EDIT UNINSPECTED DETERIORATED TRACK SEGMENTS - This option allows you to change or delete Track Segment Numbers which have marked as deteriorated Track Segments. See page 80.

F[10] This option displays a help screen.

[ESC] This option returns to the INSPECTION INFORMATION menu. See page 54.

Option (1) from the INDICATE UNINSPECTED DETERIORATED TRACK SEGMENTS menu displays the following screen. The data requirements are explained below.

```
Press [ESC] to ADD this data -- [PGUP] to SKIP

                    UNINSPECTED DETERIORATED TRACK

        Track Segment #: 101              Date (MM/DD/YY): 3/12/87

Comments:
```

TRACK SEGMENT # - This element is the Track Segment Number of the segment which has deteriorated so badly that it was not inspected. This is a required element. If the Track Segment Number is not entered an error message will appear telling you the Track Segment Number is required. This Track Segment must also already be defined in the inventory. If it is not, an error message will be displayed on the screen telling you that the Track Segment Number must be identified. If the Track Segment Number is not identified in the inventory you must enter it in the Track Segment Inventory before uninspected deteriorated track information can be entered.

DATE - This element is the date when this information was collected. It must be entered in the following format: MM/DD/YY, and it is a required element. If the date is not entered, an error message will be displayed on the screen.

COMMENTS - This element is 80 alphanumeric characters long. This space is available for written comments, when necessary.

To enter the Uninspected Deteriorated Track Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press [PGUP] to SKIP without adding this data.

Once all the Uninspected Deteriorated Track elements have been entered correctly, press [ESC] to ADD this data. The computer will add this data to your database and then return to the screen ready for you to enter more information. If you pressed [PGUP], the computer returns to the SELECT INFORMATION menu. See page 78.

Option (2) is used to change or delete existing information. This option from the INDICATE UNINSPECTED DETERIORATED TRACK SEGMENTS menu will first ask you for the Track Segment Number that you want to edit. Enter a Track Segment Number and press **ENTER** to start editing at that Track Segment Number or leave it blank and just press **ENTER** to start at the first Track Segment Number in the list. The Track Segment Numbers will appear in alphabetical order. If there are not any Track Segment Numbers to be found for the Track Segment Number entered, the computer automatically retrieves the next available Track Segment Number in alphabetical order. If no more Track Segment Numbers are available, the computer returns to the menu automatically. If a Track Segment Number is found, this information will be displayed. See page 79 for a complete explanation of each of the UNINSPECTED DETERIORATED TRACK SEGMENT elements.

Make any changes you wish to the information and then press [ESC]. The command line in the upper left corner of your screen will change to display seven edit options:

SKIP — The information displayed on the screen is not modified and the next row in the table is displayed.

EDIT — The information displayed on the screen may be changed. Press [E] and modify the information. When you are done, press the [ESC] key to return to the EDIT command line. At this point the information displayed on the screen has not been saved in the database. Choose one of the other options: **CHANGE**, **ADD**, **RESET**, or **DELETE**.

CHANGE — The modified information on the screen is saved and the next row in the table is displayed.

ADD — The information displayed on the screen is added as a new row to the database and the original row is left unchanged. You now have two rows of information. Then a new screen is displayed ready for you to enter more data.

RESET — The information displayed on the screen is not saved. The computer ignores the modifications you made to the row and resets the row to its original values. If the change or add options have already been entered, RESET will not recall the original values.

DELETE — The information displayed on the screen is deleted from the database when you confirm the command. Then the next row in the table is displayed.

QUIT — This option terminates the EDIT mode.

Use the arrow keys, or the space bar to move the cursor to the correct EDIT option from the command line and press **ENTER**.

The following pages are sample Track Segment Inspection Information Collection forms. The Inspection Information is collected in the field on these forms, then the information is entered into the computer from these forms.

RAILER I

INSTALLATION NAME _____ RAIL INSPECTION DATE _____

TRACK SEGMENT NUMBER	DATE	LOCATION (STATION)	RAIL (LEFT OR RIGHT	DEFECT TYPE	COMMENTS

RAIL DEFECT TYPES

1 = Bolt Hole Crack
2 = Broken Base
3 = Corroded Base
4 = Complete Break
5 = Crushed Head
6 = Defective Weld
7 = End Batter (>1/4")
8 = Fissure-Compound
9 = Fissure-Transverse
10 = Fracture-Detail
11 = Fracture-Engine Burn
12 = Head/Web Separation
13 = Piped Rail
14 = Split Head-Horizontal
15 = Split Head-Vertical
16 = Split Web
17 = Torch Cut
18 = Wear-Side (>1/2")
19 = Wear-Vertical (>1/2")
20 = Overflow
21 = Shelling
22 = Corrugation
23 = Chip/Dent in Head
24 = Engine Burn
25 = Flaking
26 = Rail Weight Insufficient for Mission

RAILER I INSPECTION
TIES

DATE: _____

INSPECTOR: _____

TRACK SEGMENT #	DEFECTIVE TIE CONDITIONS: CONSECUTIVE DEFECTIVE TIES 2	3	4	5 or more	ALL JOINT TIES DEFECTIVE	AVERAGE SPACING PER RAIL LENGTH >22 in	SKEWED TIES	MISSING/ BUNCHED/ BADLY SKEWED TIES (tie spacing along either Rail>48 in)	TOTAL DEFECTIVE TIES
# OF OCCURRENCES									
TOTAL									
COMMENTS									
# OF OCCURRENCES									
TOTAL									
COMMENTS									
# OF OCCURRENCES									
TOTAL									
COMMENTS									
# OF OCCURRENCES									
TOTAL									
COMMENTS									

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RAILER I INSPECTION
TURNOUTS

TRACK SEGMENT # _____ DATE _____
TURNOUT ID # _____ INSPECTOR _____

GENERAL		TIES	
Rail Weight changes within Turnout limits	N Y	# of Defective Ties in a row (worst case)	
Reversing Tangent Past Frog Less than 50 Feet	N Y	# of Occurrences where Joint Ties are Defective	
Switch Difficult to Operate	N Y	# of Occurrences where Tie Spacing 22 in	
		# of Skewed Ties	
Line & Surface	GOOD FAIR POOR	# of Missing/Bunched/Badly Skewed Ties (Tie spacing along either rail>48 in)	
		TOTAL # of Defective Ties	

	COMPONENTS	NO DEFECTS	IMPROPER SIZE TYPE/POSITION (Y or #)	LOOSE (Y or #)	CHIPPED/WORN/BENT CRACKED/BROKEN/ CORRODED/ALTERED (Y or #)	MISSING (Y or #)
S	Switch Stand		Y	Y	Y	Y
W	Point Lock/Lever Latch		Y	Y	Y	Y
I	Connecting Rod		Y	Y	Y	Y
T	Switch Point - Left		Y*	Y	Y	Y
C &	Switch Point - Right		Y*	Y	Y	Y
H	Switch Rods					
S	Clip Bolts					
T	Slide Plates					
A	Braces					
N	Heel Filler & Bolts					
D	Cotter Keys					
F R O G	Point & Top Surface Bolts		Y	Y	Y*	Y
G R U A A I R L D S	Guard Rails Filler & Bolts					

	MEASUREMENTS (inches)	STRAIGHT SIDE	TURNOUT SIDE	COMMENTS
F + R O G	Gage at Point Guard Check Gage Guard Face Gage Flangeway Width Flangeway Depth			
G R+ U A A I R L D S	Flangeway Width			
O T H E R	Gage at Switch Points Gage at Joints in Curved Closure Rails			

* See reverse for illustrations of wear and improper positions
\+ See reverse for illustrations of measurements

RAILER I INSPECTION
VEGETATION

DATE ______________
INSPECTOR ______________

TRACK SEGMENT *	DEFECTS	LOCATION * Left Occurrences	Left Total	Center Occurrences	Center Total	Right Occurrences	Right Total
	No Defects Insufficient, where needed Growing in Ballast Prevents Track Inspection Interferes with Walking Interferes with Visibility of Signs Brushes Sides of Rolling Stock Interferes with Trains or Track Vehicles Presents a Fire Hazard						
	COMMENTS						
	No Defects Insufficient, where needed Growing in Ballast Prevents Track Inspection Interferes with Walking Interferes with Visibility of Signs Brushes Sides of Rolling Stock Interferes with Trains or Track Vehicles Presents a Fire Hazard						
	COMMENTS						
	No Defects Insufficient, where needed Growing in Ballast Prevents Track Inspection Interferes with Walking Interferes with Visibility of Signs Brushes Sides of Rolling Stock Interferes with Trains or Track Vehicles Presents a Fire Hazard						
	COMMENTS						
	No Defects Insufficient, where needed Growing in Ballast Prevents Track Inspection Interferes with Walking Interferes with Visibility of Signs Brushes Sides of Rolling Stock Interferes with Trains or Track Vehicles Presents a Fire Hazard						
	COMMENTS						

* See reverse for illustrations of location

4.4 Car Type Information

Option (4) from the UPDATE INFORMATION menu displays the following menu. Explanations of the options are below.

```
                    UPDATE CAR TYPE INFORMATION
 (1)     Car Type Information                          F[10] HELP
 (2)     Exit Back to Previous Menu                    [ESC] TO EXIT


**********************************************************************
**                                                                  **
** WARNING ----- Once you have entered all the Car Type             **
**               Information for Auxiliary, Loading, Service        **
**               and Storage Tracks, the computer will              **
**               automatically start updating the Car Type          **
**               Information for the rest of the Track              **
**               Segments.                                          **
**                                                                  **
**               This process will take several minutes.            **
**                                                                  **
** SUGGESTION -- Update Car Type Information when you have          **
**               plenty of time to allow the computer to            **
**               process this information.                          **
**                                                                  **
**********************************************************************
```

UPDATE CAR TYPE INFORMATION

OPTIONS:

(1) CAR TYPE INFORMATION - This option allows you to update Car Type Information for Auxiliary, Loading, Service, and Storage Tracks. Once all this information has been entered for those Track Segments, the computer will automatically update the Car Type Information for the rest of the Track Segments. This process may take several minutes. It is suggested that this procedure be run when you have plenty of time to allow the computer to process this information. Once it starts to process this information, the computer MUST NOT BE INTERRUPTED. If the computer processing is aborted, you will lose some of your Car Type Information and will have to load it again.

(2) EXIT BACK TO PREVIOUS MENU - This option returns to the UPDATE INFORMATION menu on page 15.

F[10] This option displays a help screen.

[ESC] This option returns to the UPDATE INFORMATION menu of page 15.

Option (1) from the UPDATE CAR TYPE INFORMATION menu displays following screen. This option is used to add or edit Car Type Information.

Press [ESC] when done with this data -- [PGUP] to SKIP

This Track Segment is a STORAGE track.

CAR TYPE INFORMATION

Track Segment #: 1001

	Heaviest Load	
HEAVY LOAD:	0.000	Tons
FLAT:	0.000	Tons
GONDOLA:	0.000	Tons
BOX:	0.000	Tons
HOPPER:	0.000	Tons
6 AXLE LOCOMOTIVE:	0.000	Tons
4 AXLE LOCOMOTIVE:	0.000	Tons
2 AXLE LOCOMOTIVE:	0.000	Tons

Do you want to enter more Car Type Information (Y/N) ?

Enter the heaviest load in tons for each car type which operates on that Track Segment. If one of the car types listed does not operate on that Track Segment leave the tonnage at zero. Press [PGUP] to SKIP without updating this data.

Press [ESC] to ADD this data. The computer will then ask you if you want to add more CAR TYPE INFORMATION for other Track Segments. Enter Y or N. Once you have updated all the segments the computer will automatically start figuring the CAR TYPE INFORMATION for the rest of the trackage. This process must not be interrupted. If this process is aborted you will lose some of your Car Type Information and you must load the Car Type Information and run the this process again. This screen as seen on page 90 will be displayed while the computer is processing this information.

```
I am figuring the Car Type and Heaviest Load
for the rest of the track.

          Please Wait . . .


Total # of Track Segments to be processed 10

Total # of Track Segments processed =      1
```

The above screen will appear until the processing of the Car Type Information is completed. The total number of Track Segments to be processed will be displayed along with the total number of Track Segments which have been processed. These numbers will help you estimate how much time this process will take. Once this process is completed the computer will return to the UPDATE INFORMATION menu on page 15.

The following page is a sample Car Type Information Collection Form. The Car Type Information is collected in the office and then entered into the computer from these forms.

RAILER I

INSTALLATION NAME _____ CAR TYPE INFORMATION DATE _____

Complete Car Type Information for AUXILIARY, LOADING, SERVICE, and STORAGE Tracks only.
Car Type options are FLAT, HEAVY FLAT, BOX, HOPPER, GONDOLA, 6 AXLE LOCOMOTIVE, 4 AXLE LOCOMOTIVE, and 2 AXLE LOCOMOTIVE.
List all Car Types that are appropriate for each Track Segment.
For cars, "Heaviest Load" is the heaviest loading (net tons) placed on the car; for locomotives, "Heaviest Load" is the total weight (gross tons) of the locomotive.

Track Segment #	Car Type	Heaviest Load (Tons)	Track Segment #	Car Type	Heaviest Load (Tons)

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MRB

4.5 Repair Cost Information

Option (5) from the UPDATE INFORMATION menu displays the following menu. Explanations of the options are below.

UPDATE REPAIR COST INFORMATION		
(1)	Repair Cost Information	F[10] HELP
(2)	Exit Back to Previous Menu	[ESC] TO EXIT

UPDATE REPAIR COST INFORMATION

OPTIONS:

(1) REPAIR COST INFORMATION - This option allows you to update Repair Cost Information for each Track Segment. These are segment by segment costs. Repair Cost Information includes: TRACK SEGMENT NUMBER, DATE, COST, and COMMENTS. See page 94.

(2) EXIT BACK TO PREVIOUS MENU - This option returns to the UPDATE INFORMATION menu on page 15.

F[10] This option displays a help screen.

[ESC] This option returns to the UPDATE INFORMATION menu on page 15.

Option (1) from the UPDATE REPAIR COST INFORMATION displays the following screen. The data requirements are explained below. This option is used to add or edit Repair Cost Information.

```
Press [ESC] when done with this data -- [PGUP] to SKIP

                    REPAIR COST INFORMATION

                    Track Segment #:  1001

                    Date (MM/DD/YY): 03/14/87

                         Cost:  $1500.00

Comments:

Do you have more Repair Cost Information to enter (Y/N) ?
```

DATE - Enter the date the cost estimate was established. The date must be entered in the following format: MM/DD/YY, and it is a required element. If the date is not entered, an error will be displayed on the screen.

COST - Enter the Cost per Track Segment for each Track Segment. The repair cost for a Track Segment should only be zero if there is nothing wrong with the Track Segment and you do not want to improve it. The Track Segment may have a cost when there is nothing wrong with the segment. This cost is then recognised as improvements to the Track Segment.

COMMENTS- This element is 80 alphanumeric characters long. This space is available for written comments, when necessary.

To enter the Repair Cost Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press **[PGUP]** to SKIP without updating this data.

Once all the Repair Cost elements have been entered correctly, press **[ESC]** to ADD this data. The computer will then ask you if you want to add more REPAIR COST INFORMATION. Enter **Y** or **N**. If you enter **Y**, the computer returns to the above REPAIR COST INFORMATION screen, ready for more Repair Cost Information to be entered. If you enter **N**, the computer returns to the UPDATE INFORMATION menu. See page 15.

4.6 Work History Information

Option (6) from the UPDATE INFORMATION menu displays the following menu. Explanations of the options are below.

WORK HISTORY INFORMATION	
(1) Add Work History Information	F[10] HELP
(2) Edit Work History Information	[ESC] TO EXIT

WORK HISTORY INFORMATION

OPTIONS:

(1) ADD WORK HISTORY INFORMATION - This option allows you to enter Work History Information which includes: TRACK SEGMENT NUMBER, YEAR WORK WAS COMPLETED, COST OF THE WORK, and A DESCRIPTION OF THE WORK DONE. See page 96.

(2) EDIT WORK HISTORY INFORMATION - This option allows you to change or delete Work History Information. The screen for editing Work History Information looks the same as the ADD Work History Information screen on page 96.

F[10] This option displays a help screen.

[ESC] This option returns to the UPDATE INFORMATION menu on page 15.

Add Work History Information

Option (1) from the WORK HISTORY INFORMATION menu displays the following screen. The data requirements are explained below.

```
Press [ESC] when done with this data -- [PGUP] to SKIP

                    WORK HISTORY INFORMATION

                    Track Segment #:  1001

                    Year (YYYY): 1987

                    Cost:  $1500.00

work Description:

Do you have more Repair Cost Information to enter (Y/N) ?
```

TRACK SEGMENT # - Enter the Track Segment Number where the work was completed. This element is an eight character alphanumeric code assigned for Track Segment Identification. This is a required element. If the Track Segment Number is not entered, an error message will appear telling you the Track Segment Number is required. This Track Segment Number must also already be defined in the inventory. If it is not, an error message will be displayed on the screen telling you that the Track Segment Number must be identified. If the Track Segment Number is not identified in the inventory you must enter it in the Track Segment Inventory before Work History Information can be entered for that Track Segment.

YEAR - Enter the year the work was completed in format: (YYYY).

COST - Enter the cost of work done.

WORK DESCRIPTION - Enter a description of the work done.

To enter the Work History Information press **ENTER** or use the **TAB** key to move to the next field on the screen. Press **[PGUP]** to SKIP without adding this data.

Once all the Work History elements have been entered correctly, press **[ESC]** to ADD this data. The computer will then ask you if you want to add more WORK HISTORY INFORMATION. Enter

Y or N. If you enter Y, the computer returns to the above WORK HISTORY INFORMATION screen ready for more WORK HISTORY INFORMATION to be entered. If you enter N, the computer returns to the UPDATE INFORMATION menu. See page 15.

Edit Work History Information

Option **(2)** is used to change or delete existing information. This option from the WORK HISTORY INFORMATION menu will first ask you for the Track Segment Number that you want to edit. Enter a Track Segment Number and press **ENTER** to start editing at that Track Segment Number or leave it blank and just press **ENTER** to start at the first Track Segment Number in the list. The Track Segment Numbers will appear in alphabetical order. If there are no Track Segment Numbers found for the Track Segment Number entered, the computer automatically retrieves the next available Track Segment Number in alphabetical order. If no more Track Segment Numbers are available, the computer returns to the above menu automatically. If a Track Segment Number is found, this information will be displayed. See page 96 for a complete explanation of each of the WORK HISTORY INFORMATION elements.

Make any changes you wish to the information and then press [ESC]. The command line in the upper left corner of your screen will change to display seven edit options. Explanations of the seven edit options are as follows.

SKIP The information displayed on the screen is not modified and the next row in the table is displayed.

EDIT The information displayed on the screen may be changed. Press **[E]** and modify the information. When you are done, press the **[ESC]** key to return to the EDIT command line. At this point the information displayed on the screen has not been saved in the database. Choose one of the other options: **CHANGE, ADD, RESET,** or **DELETE.**

CHANGE The modified information on the screen is saved and the next row in the table is displayed.

ADD The information displayed on the screen is added as a new row to the database and the original row is left unchanged. You now have two rows of information. Then a new screen is displayed ready for you to enter more data.

RESET The information displayed on the screen is not saved. The computer ignores the modifications you made to the row and resets the row to its original values. If the change or add options have already been entered, RESET will not recall the original values.

DELETE The information displayed on the screen is deleted from the database when you confirm the command. Then the next row in the table is displayed.

QUIT This option terminates the EDIT mode.

Use the arrow keys, or the space bar to move the cursor to the correct EDIT option from the command line and press **ENTER**.

5. REPORT GENERATION

Option (2) from the OPENING MENU displays the following REPORT GENERATION menu. Explanations of the options are below.

```
                    REPORT GENERATION
(1)  Installation Information
(2)  Track Segment Inventory Information
(3)  Track Segment Inspection Information
(4)  Car Type Information
(5)  Repair Cost Information
(6)  Work History Information
(7)  Information by Setting Parameters
(8)  Missing Information
(9)  Condition Comparison To Maintenance Standards
                                          F[10] HELP
                                          [ESC] TO EXIT
```

REPORT GENERATION

OPTIONS:

(1) INSTALLATION INFORMATION - Prints all the information concerning the Installation Network. See page 102.

(2) TRACK SEGMENT INVENTORY INFORMATION - Prints all the Inventory Information for all segments, one segment, up to ten segments of your choice, or all the segments within a certain track. See page 104.

(3) TRACK SEGMENT INSPECTION INFORMATION - Prints all the Inspection Information or Uninspected Deteriorated Track Segments for all segments, one segment, up to ten segments, or all the segments within a certain track. Inspection Information includes Rail Inspection, Tie Inspection, Track Deflection Information, Track Geometry Inspection, Turnout Inspection, and Vegetation Inspection. See page 106.

(4) CAR TYPE INFORMATION - Prints Car Type and Heaviest Load Information in Track Segment order for all segments, one segment, or up to ten segments of your choice. See page 111.

(5) REPAIR COST INFORMATION - Prints Repair Cost Information in Track Segment order for all segments, one segment, or up to ten segments of your choice. See page 113.

(6) WORK HISTORY INFORMATION - Prints Work History Information in Track Segment order for all segments, one segment, or up to ten segments of your choice. See page 115.

(7) INFORMATION BY SETTING PARAMETERS - Prints information by special parameters set by you for the following items. See page 117.

INVENTORY:

SEGMENT IDENTIFICATION	PLATES/FASTENINGS
BALLAST	RAIL
BRIDGES	RAIL CROSSINGS
CULVERTS	ROAD CROSSINGS
CURVES	TURNOUTS

INSPECTION:

RAIL INSPECTION	TRACK GEOMETRY
TIE INSPECTION	TURNOUT INSPECTION
TRACK DEFLECTION	VEGETATION INSPECTION

CAR TYPE:

TRACK SEGMENT #	CAR TYPE
HEAVIEST LOAD	

REPAIR COST:

TRACK SEGMENT #	REPAIR COST

WORK HISTORY:

TRACK SEGMENT #	COST
YEAR	WORK DESCRIPTION

(8) MISSING INFORMATION - Prints items with missing elements. This also prints a list of the track segments where Inspection Information, Car Type Information, and Repair Cost Information, are missing. See page 143.

(9) CONDITION COMPARISON TO MAINTENANCE STANDARDS - This option compares the inspection results with the maintenance standards and prints three different reports showing where the track does not meet the maintenance standards. This information may be printed out for all segments, one segment, up to ten segments of your choice, or all the segments within a certain track. See page 144.

F[10] This option displays a help screen.

[ESC] This option returns to the OPENING MENU on page 13.

5.1 Installation Information

Option **(1)** from the REPORT GENERATION menu, Installation Information, displays the following print routing menu. Explanations of the options are below.

SELECT PRINT ROUTING

OPTIONS:

PRINTER This option prints your report on the printer.

SCREEN This option prints your report on the screen.

BOTH This option prints your report on the printer and the screen.

EXIT This option returns to the REPORT GENERATION menu on page 100, without printing the report.

Align the paper in your printer, select your report routing option and press **ENTER**. An example of the Installation Information Report follows on page 103.

RAILER I

04/06/87 Page: 1

CAMP EXAMPLE B OR

Installation #(s): EX111 Relation Codes(s): EX111

Serving Railroad(s)
UNION PACIFIC RAILROAD
-0-
-0-
-0-

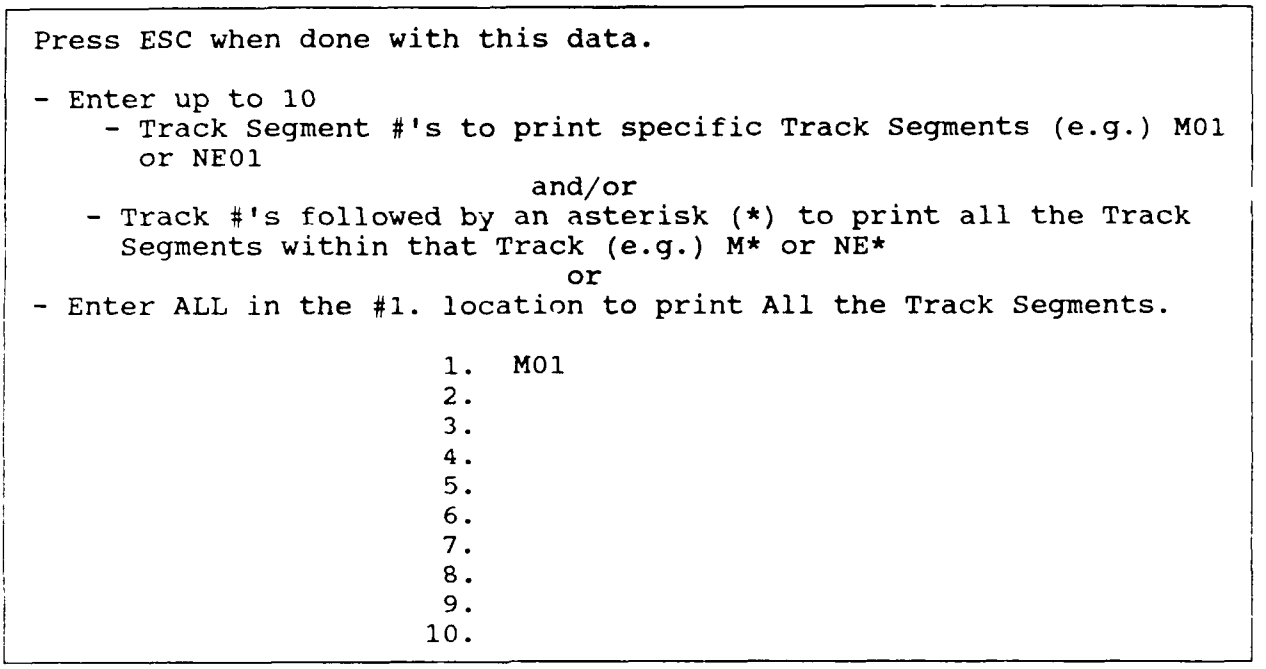
Installation Trackage

Track #	Track Length (TF)	# of Segments
1	7887	4
10	1427	1
2	1095	1
3	1752	2
4	1037	1
5	865	1
6	4517	1
7	3515	3
8	1477	1
9	3255	3
I	2681	1
M	34867	16
P	4368	2
Y	775	1

Total # of Installation Tracks = 14
Total # of Segments = 38
Total Track Feet = 69518

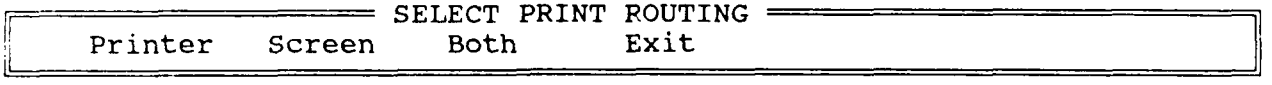
5.2 Track Segment Inventory Information

Option **(2)** from the REPORT GENERATION menu, Track Segment Inventory Information, displays the following menu.



Enter the Track Segment Numbers you wish to print. You may enter up to ten Track Segment Numbers, or enter track numbers followed by an asterisk (*) to print all the Track Segments within the track (e.g., M* or P*), or enter **"ALL"** next to the 1. to print all the Track Segment Numbers.

Press **[ESC]** when done typing in your Track Segment Numbers. The following print routing menu will appear. Explanations of the options are below.



SELECT PRINT ROUTING

OPTIONS:

PRINTER This option prints your report on the printer.

SCREEN This option prints your report on the screen.

BOTH — This option prints your report on the printer and the screen.

EXIT — This option returns to the REPORT GENERATION menu on page 100, without printing the report.

Align the paper in your printer, select your report routing option and press **ENTER**. An example of the Track Segment Inventory Information Report follows.

EX111 RAILER I TRACK SEGMENT INVENTORY Page: 1
CAMP EXAMPLE B 05/21/87

****

SEGMENT IDENTIFICATION

TRACK SEGMENT#	BEGIN LOCATION	END LOCATION	LENGTH	TRACK CATEGORY	TRACK USE	TRACK RANK	PRECEDING TRACK SEGMENT#(S)
M01	0+00	26+20	2620 TF	A	ACCESS	0.00	CPEXLEAD
	-0-						-0-

****

BALLAST

TRACK SEGMENT#	DEPTH	COMMENTS
M01	21 inches	6" LIFT IN 1973.

****

PLATES/FASTENINGS

TRACK SEGMENT #	TIE PLATES	RAIL ANCHORS (#/200 TF)	GAGE RODS	COMMENTS
M01	Y	120	N	-0-

****

RAIL

TRACK SEGMENT #	WEIGHT	SECTION	BEGIN LOCATION	END LOCATION	LENGTH	COMMENTS
M01	112 lbs/yd	RE	0+00	26+20	5240 LF	-0-

5.3 Track Segment Inspection Information

Option **(3)** from the **REPORT GENERATION** menu, Track Segment Inspection Information, displays the following menu. Explanations of the options are below.

```
                    INSPECTION DATE
(1)  Current Inspection                    F[10]  HELP
(2)  All Inspection                        [ESC]  TO EXIT
(3)  By Calendar Year
```

INSPECTION DATE

OPTIONS:

(1) CURRENT INSPECTION - This option prints all the latest (most current) inspection.

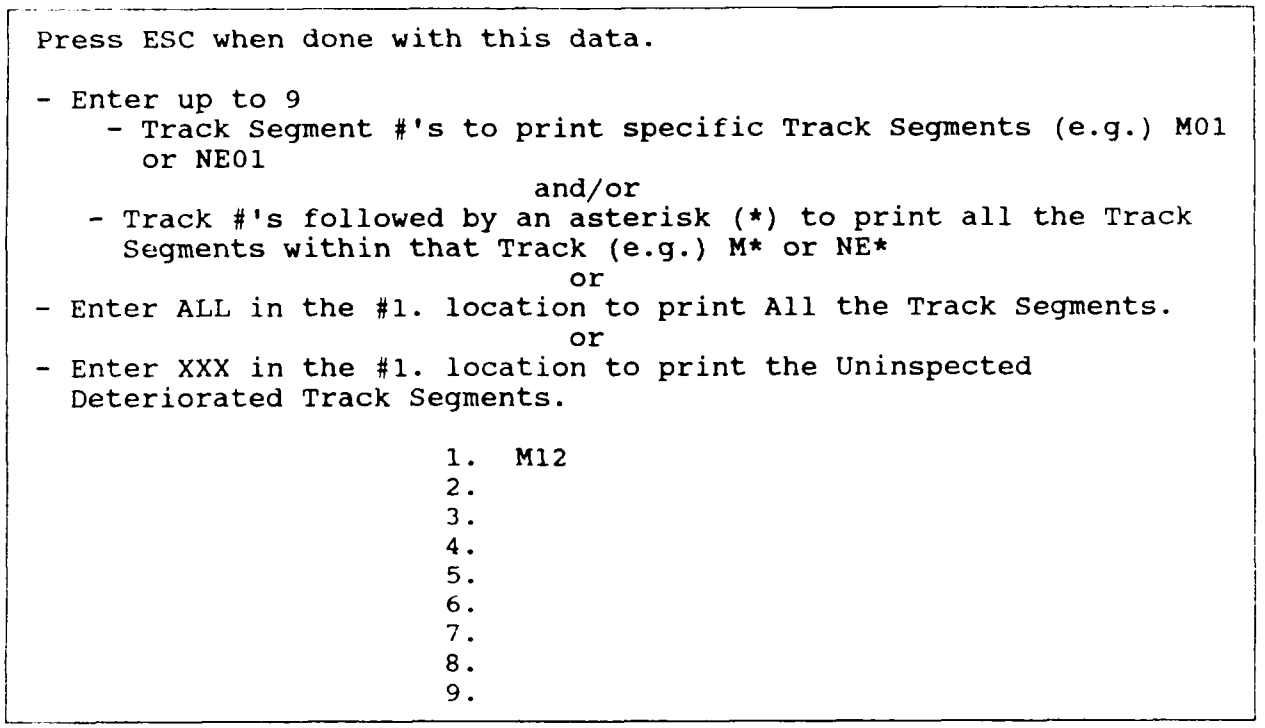
(2) ALL INSPECTION - This option prints all the inspections that are in the database no matter what the inspection date.

(3) BY CALENDAR YEAR - This option allows you to enter a calendar year (e.g., 1980). This option prints all the inspections for the given calendar year.

F[10] This option displays a help screen.

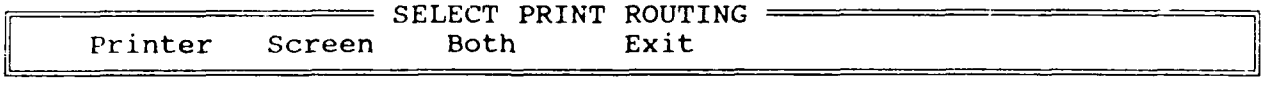
[ESC] This option returns to the REPORT GENERATION menu on page 100.

Select an Inspection Date option and press **ENTER**. The following screen is displayed.



Enter the Track Segment Numbers you wish to print. You may enter up to nine Track Segment Numbers, or enter Track Numbers followed by an asterisk (*) to print all the Track Segments within the track (e.g., M* or P*), or enter **"ALL"** next to the 1. to print all the Track Segment Numbers, or enter **"XXX"** next to the 1. to print all the Uninspected Deteriorated Track Segments.

Press **[ESC]** when done entering your Track Segment Numbers. The following Print Routing menu will appear. Explanations of the options are below.



SELECT PRINT ROUTING

OPTIONS:

PRINTER This option prints your report on the printer.

SCREEN This option prints your report on the screen.

BOTH This option prints your report on the printer and the screen.

EXIT — This option returns to the REPORT GENERATION menu on page 100.

Align the paper in your printer, select your report routing option and press **ENTER**. All of the Inspection Information will be printed, therefore, there will be several reports which include the Track Geometry Summary Report, Tie Inspection Report, Turnout Inspection Report, and Vegetation Inspection Report. Examples of these reports follow.

EX111 — RAILER I INSPECTION — Page: 1
CAMP EXAMPLE B — TRACK GEOMETRY SUMMARY — 05/21/87

TRACK SEGMENT#	SAMPLE UNIT	MAINTENANCE STANDARD CONDITION	GAGE	CROSS LEVEL	WARP
101	51%	NO DEFECTS	97%	67%	100%
		NO RESTRICTIONS	3%	16%	0%
		10 MPH LIMIT	0%	17%	0%
		5 MPH LIMIT	0%	0%	0%
		OUT OF SERVICE	0%	0%	0%
601	88%	NO DEFECTS	94%	100%	100%
		NO RESTRICTIONS	6%	0%	0%
		10 MPH LIMIT	0%	0%	0%
		5 MPH LIMIT	0%	0%	0%
		OUT OF SERVICE	0%	0%	0%
M12	28%	NO DEFECTS	68%	100%	100%
		NO RESTRICTIONS	30%	0%	0%
		10 MPH LIMIT	0%	0%	0%
		5 MPH LIMIT	0%	0%	0%
		OUT OF SERVICE	2%	0%	0%

EX111 — RAILER I INSPECTION — Page: 1
CAMP EXAMPLE B — TIE INSPECTION — 05/21/87

TRACK SEGMENT# /DATE	CONSECUTIVE DEFECTIVE TIES 2	3	4	5	JOINT TIES DEFECTIVE	AVE. SPACING > 22"	SKEWED TIES	MISSING/ BUNCHED/BADLY SKEWED TIES	TOTAL DEFECT TIES
M12	1	2	0	0	1	0	0	0	19
03/30/87	-0-								
	1	2	0	0	1	0	0	0	19

EX111 RAILER I INSPECTION Page: 1
CAMP EXAMPLE B TURNOUT INSPECTION
05/21/87

Track Segment #: M12 Date: 03/12/87
Turnout ID #: 1T7

---------- General ----------

Rail Weight changes within Turnout limits: Y
Reversing Tangent Past Frog less than 50 Feet: N
Switch Difficult to Operate: Y
Line & Surface: POOR

---------- Ties ----------

# of Defective Ties in a row (worst case): 2
# of Occurrences where Joint Ties are Defective: 1
# of Occurrences where Tie Spacing > 22 in.: 0
# of Skewed Ties: 3
# of Missing/Bunched/Badly Skewed Ties: 0
TOTAL # of Defective Ties: 7

Components	No Defects	Improper Size	Loose	Chipped/ Worn/Bent	Missing
Switch Stand	-	-	-	Y	-
Point Lock/Lever Latch	-	-	-	-	Y
Connecting Rod	-	-	-	Y	-
Switch Point - Left	-	-	-	Y	-
Switch Point - Right	-	-	-	Y	-
Switch Rods	-	0	0	2	0
Clip Bolts	-	4	0	0	0
Slide Plates	-	0	2	0	0
Braces	-	0	2	0	3
Heel Filler & Bolts	-	0	0	0	2
Cotter Keys	-	0	4	0	0
Point & Top Surface	-	-	-	Y	-
Bolts	-	0	4	0	0
Guard Rails	X	0	0	0	0
Filler & Bolts	X	0	0	0	0

-- Frog Measurements --	Straight Side	Turnout Side
Gage at Point:	56.10 "	57.20 "
Guard Check Gage:	54.40 "	54.40 "
Guard Face Gage:	52.80 "	53.10 "
Flangeway Width:	1.60 "	1.60 "
Flangeway Depth:	1.60 "	1.60 "
-- Guard Rail Measurement --		
Flangeway Width:	1.60 "	1.60 "

-- Other Measurements --
Gage at Switch Points: 57.20 "
Gage at Joints in Curved Closure Rails: 56.10 " -0- "
Comments: -0-

EX111 RAILER I INSPECTION Page: 1
CAMP EXAMPLE B VEGETATION INSPECTION
05/21/87

TRACK SEGMENT #	DEFECTS	LEFT	CENTER	RIGHT
M12	NO DEFECTS	100 %	0 %	0 %
03/30/87	INSUFFICIENT, WHERE NEEDED	0 %	0 %	0 %
	GROWING IN BALLAST	0 %	100 %	0 %
	PREVENTS TRACK INSPECTION	0 %	0 %	0 %
	INTERFERES WITH WALKING	0 %	0 %	0 %
	INTERFERES WITH VISIBILITY OF SIGNS . . .	0 %	0 %	0 %
	BRUSHES SIDES OF ROLLING STOCK	0 %	0 %	100 %
	INTERFERES WITH TRAINS OR TRACK VEHICLES .	0 %	0 %	0 %
	PREVENTS A FIRE HAZARD	0 %	0 %	0 %

COMMENTS: -0-

****

NO INFORMATION SATISFIES CONDITION FOR: TRACK GEOMETRY; RAIL INSPECTION; TRACK DEFLECTION;

****

5.4 Car Type Information

Option **(4)** from the REPORT GENERATION menu, Car Type Information, displays the following menu.

```
Press ESC when done with this data.

- Enter up to 10
    - Track Segment #'s to print specific Track Segments (e.g.) M01
      or NE01
                              and/or
   - Track #'s followed by an asterisk (*) to print all the Track
     Segments within that Track (e.g.) M* or NE*
                                or
- Enter ALL in the #1. location to print All the Track Segments.

                          1.  1*
                          2.
                          3.
                          4.
                          5.
                          6.
                          7.
                          8.
                          9.
                         10.
```

Enter the Track Segment Numbers you wish to print. You may enter up to ten Track Segment Numbers, or enter Track Numbers followed by an asterisk (*) to print all the Track Segments within the track (e.g., M* or P*), or enter **"ALL"** next to the 1. to print all the Track Segment Numbers.

Press **[ESC]** when done entering you Track Segment Numbers. The following print routing menu will appear. Explanations of the options are below.

```
═══════ SELECT PRINT ROUTING ═══════
Printer   Screen    Both      Exit
```

SELECT PRINT ROUTING

OPTIONS:

PRINTER This option prints your report on the printer.

SCREEN This option prints your report on the screen.

BOTH This option prints your report on the printer and the screen.

EXIT This option returns to the REPORT GENERATION menu on page 100, without printing the report.

Align the paper in your printer, select your report routing option, and press **ENTER**. An example of the Car Type Information Report follows.

EX111 RAILER I Page: 1
CAMP EXAMPLE B
CAR TYPE INFORMATION
05/21/87

TRACK SEGMENT #	CAR TYPE	HEAVIEST LOAD (TONS)
101		
	4 AXLE LOCOMOTIVE	110.00
	BOX	55.000
	HEAVY FLAT	140.00
	FLAT	80.000
	GONDOLA	98.000
102		
	4 AXLE LOCOMOTIVE	110.00
	GONDOLA	98.000
	HEAVY FLAT	140.00
	FLAT	80.000
	BOX	55.000
103		
	4 AXLE LOCOMOTIVE	110.00
	FLAT	80.000
	HEAVY FLAT	140.00
104		
	FLAT	80.000
	4 AXLE LOCOMOTIVE	110.00
	HEAVY FLAT	140.00

5.5 Repair Cost Information

Option (5) from the REPORT GENERATION menu, Repair Cost Information, displays the following menu.

```
Press ESC when done with this data.

- Enter up to 10
    - Track Segment #'s to print specific Track Segments (e.g.) M01
      or NE01
                              and/or
    - Track #'s followed by an asterisk (*) to print all the Track
      Segments within that Track (e.g.) M* or NE*
                              or
- Enter ALL in the #1. location to print All the Track Segments.

                          1.  M*
                          2.
                          3.
                          4.
                          5.
                          6.
                          7.
                          8.
                          9.
                         10.
```

Enter the Track Segment Numbers you wish to print. You may enter up to ten Track Segment Numbers, or enter Track Numbers followed by an asterisk (*) to print all the Track Segments within the track (e.g., M* or P*), or enter **"ALL"** next to the 1. to print all the Track Segment Numbers.

Press **[ESC]** when you are done entering your Track Segment Numbers. The following print routing menu will appear. Explanations of the options are below.

```
                SELECT PRINT ROUTING
Printer    Screen     Both       Exit
```

SELECT PRINT ROUTING

OPTIONS:

PRINTER This option prints your report on the printer.

SCREEN This option prints your report on the screen.

BOTH This option prints your report on the printer and the screen.

EXIT This option returns to the REPORT GENERATION menu on page 100, without printing the report.

Align the paper in your printer, select your report routing option and press **ENTER**. An example of the Repair Cost Information Report follows.

EX111 RAILER I Page 1
CAMP EXAMPLE B REPAIR COST INFORMATION
05/21/87

TRACK SEGMENT #	DATE	COST/SEGMENT	COST/100 TF	COMMENTS
M01	03/31/87	$16,280.00	$621.37	-0-
M02	03/31/87	$8,486.00	$3,705.68	-0-
M03	03/31/87	$0.00	$0.00	-0-
M04	03/31/87	$87,510.00	$551.28	-0-
M05	03/31/87	$11,200.00	$506.79	-0-
M06	03/31/87	$22,346.00	$1,052.57	-0-
M07	03/31/87	$10,210.00	$573.92	-0-
M08	03/31/87	$20,592.00	$857.29	-0-
M09	03/31/87	$25,856.00	$1,361.56	-0-
M10	03/31/87	$8,022.00	$1,440.22	-0-
M11	03/31/87	$2,050.00	$561.64	-0-

5.6 Work History Information

Option **(6)** from the REPORT GENERATION menu, Work History Information, displays the following menu.

```
Press ESC when done with this data.

- Enter up to 10
    - Track Segment #'s to print specific Track Segments (e.g.) M01
      or NE01
                              and/or
   - Track #'s followed by an asterisk (*) to print all the Track
     Segments within that Track (e.g.) M* or NE*
                                or
- Enter ALL in the #1. location to print All the Track Segments.

                          1.  ALL
                          2.
                          3.
                          4.
                          5.
                          6.
                          7.
                          8.
                          9.
                         10.
```

Enter the Track Segment Numbers you wish to print. You may enter up to ten Track Segment Numbers, or enter Track Numbers followed by an asterisk (*) to print all the Track Segments within the track (e.g., M* or P*), or enter **"ALL"** next to the 1. to print all the Track Segment Numbers.

Press **[ESC]** when you are done entering the Track Segment Numbers. The following print routing menu will appear. Explanations of the options are below.

```
SELECT PRINT ROUTING
Printer   Screen    Both      Exit
```

SELECT PRINT ROUTING

OPTIONS:

PRINTER This option prints your report on the printer.

SCREEN This option prints your report on the screen.

BOTH — This option prints your report on the printer and the screen.

EXIT — This option returns to the REPORT GENERATION menu on page 100, without printing the report.

Align the paper in your printer, select your print routing option, and press **ENTER**. An example of the Repair Cost Information Report follows.

EX111 RAILER I Page: 1
CAMP EXAMPLE B
WORK HISTORY INFORMATION
05/21/87

TRACK SEGMENT #	YEAR	COST	WORK DESCRIPTION
1001	1978	$0.00	SEGMENT REDUCED TO CATEGORY B (INACTIVE TRACK).
101	1977	$17,000.00	REPLACE 450 TIES AND 50 SWITCH TIES.
601	1977	$39,200.00	REPLACE 950 TIES, REBUILD TRACK CROSSING, CLEAN DITCHES.
601	1978	$19,000.00	BALLAST AND SURFACE.
901B	1978	$0.00	SEGMENT CREATED OUT OF OLD SEGMENT 901 AND REDUCED TO CATEGORY B (INACTIVE TRACK).
902	1978	$0.00	SEGMENT REDUCED TO CATEGORY B (INACTIVE TRACK).
I01	1980	$28,000.00	500 TIES REPLACED, BALLAST ADDED, AND RAIL AND TIES RAISED.
M01	1980	$26,250.00	550 TIES REPLACED, BRUCHCUTTING, DITCHES CLEANED, BOLTS TIGHTENED/REPLACED.
M02	1980	$18,900.00	REPAIR FLOOD DAMAGE, 100 TIES REPLACED, BALLAST AND SURFACE, BOLTS TIGHTENED/REPLACED.
M03	1980	$12,500.00	REPAIR FLOOD DAMAGE TO BRIDGE, CLEAR DEBRIS FROM BRIDGE PIERS.
M04	1984	$30,600.00	REPLACE 630 TIES, CLEAN DITCHES AND CULVERTS.

5.7 Information by Setting Parameters

Option (7) from the REPORT GENERATION menu, Information by Setting Parameters, displays the following TABLE-1 menu. This option allows you to generate reports that contain only the information you are looking for. You may select two items from TABLE-1 and within each item you may set up to nine parameters.

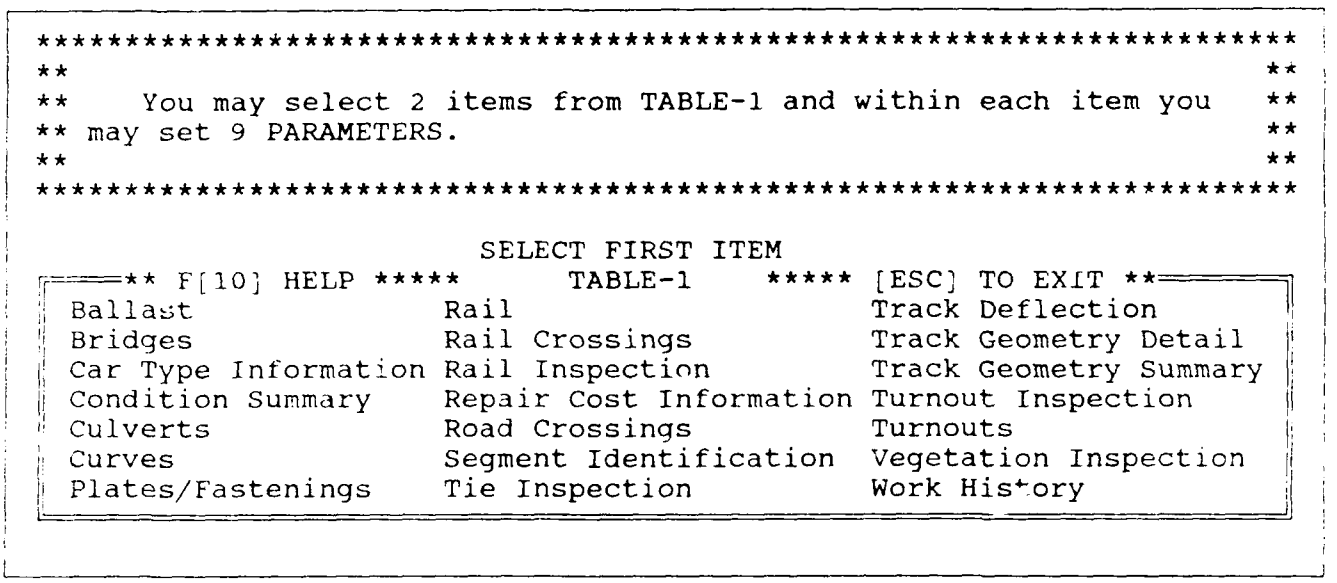


TABLE-1

OPTIONS:

BALLAST	This table includes: TRACK SEGMENT NUMBER, and BALLAST DEPTH.
BRIDGES	This table includes: TRACK SEGMENT NUMBER, FACILITY NUMBER, CONSTRUCTION TYPE, and DECK TYPE.
CAR TYPE INFORMATION	This table includes: TRACK SEGMENT NUMBER, CAR TYPE and HEAVIEST LOAD.
CONDITION SUMMARY	This table contains Condition Summary Information by Track Segment Number for the following conditions: OUT OF SERVICE, 5 MPH SPEED LIMIT, 10 MPH SPEED LIMIT, NO RESTRICTIONS, NO DEFECTS, C1-SATISFACTORY, C2-MARGINAL, and C3-UNSATISFACTORY.

CULVERTS	This table includes: TRACK SEGMENT NUMBER, and CENTERLINE LOCATION.
CURVES	This table includes: TRACK SEGMENT NUMBER, CURVE ID NUMBER, CURVATURE, SUPERELEVATION, and SPEED.
PLATES/FASTENINGS	This table includes: TRACK SEGMENT NUMBER, TIE PLATES, RAIL ANCHORS, and GAGE RODS.
RAIL	This table includes: TRACK SEGMENT NUMBER, WEIGHT, SECTION, BEGIN LOCATION, and END LOCATION.
RAIL CROSSINGS	This table includes: TRACK SEGMENT NUMBER, CENTERLINE LOCATION, CROSSING SEGMENT NUMBER, RAIL WEIGHT, FROG TYPE, and CROSSING ANGLE.
RAIL INSPECTION	This table includes: TRACK SEGMENT NUMBER, INSPECTION DATE, LOCATION, RAIL, and DEFECT.
REPAIR COST INFORMATION	This table includes: TRACK SEGMENT NUMBER and REPAIR COST.
ROAD CROSSINGS	This table includes: TRACK SEGMENT NUMBER, ROAD NAME, CENTERLINE LOCATION, CROSSING TYPE, BOLTED JOINTS, and CROSSING LENGTH.
SEGMENT IDENTIFICATION	This table contains Identification Information for the Track Segment, which includes: TRACK SEGMENT NUMBER, BEGIN LOCATION, END LOCATION, LENGTH, TRACK CATEGORY, TRACK USE, TRACK RANK, and PRECEDING SEGMENT NUMBER(S).
TIE INSPECTION	This table includes: TRACK SEGMENT NUMBER, DATE, NUMBER OF 2 CONSECUTIVE DEFECTIVE TIES, NUMBER OF 3 CONSECUTIVE DEFECTIVE TIES, NUMBER OF 4 CONSECUTIVE DEFECTIVE TIES, NUMBER OF 5 OR MORE CONSECUTIVE DEFECTIVE TIES, NUMBER OF JOINT TIES DEFECTIVE, NUMBER OF TIES WHICH HAVE AVERAGE SPACING MORE THAN 22 INCHES, NUMBER OF SKEWED TIES, NUMBER OF MISSING/ BUNCHED/ BADLY SKEWED TIES, and TOTAL NUMBER OF DEFECTIVE TIES.

TRACK DEFLECTION	This table includes: TRACK SEGMENT NUMBER, DATE, LOCATION, WHEEL LOAD, TRACK DEFLECTION, and TRACK MODULUS.
TRACK GEOMETRY DETAIL	This table includes: TRACK SEGMENT NUMBER, DATE, LOCATION, CURVE ID NUMBER, GAGE, CROSS LEVEL, and WARP.
TRACK GEOMETRY SUMMARY	This table includes percentages of defects for each geometry measure by operating restriction for each Track Segment.
TURNOUT INSPECTION	This table includes: TRACK SEGMENT NUMBER, DATE, TURNOUT ID NUMBER, GENERAL DEFECTS, TIE DEFECTS, COMPONENT DEFECTS, and GAGE AND FLANGEWAY MEASUREMENTS.
TURNOUTS	This table includes: TRACK SEGMENT NUMBER, TURNOUT ID NUMBER, SWITCH POINT LOCATION, DIRECTION, POINT LENGTH, RAIL WEIGHT, FROG TYPE, SIZE, and GUARD RAIL LENGTH.
VEGETATION INSPECTION	This table includes: TRACK SEGMENT NUMBER, DATE, and PERCENTAGE OF DEFECTS.
WORK HISTORY	This table includes: TRACK SEGMENT NUMBER, YEAR, COST, and DESCRIPTION of work that was completed.
F[10]	This option displays a help screen.
[ESC]	This option returns to the REPORT GENERATION menu.

To help you understand this process better several examples follow. A narrative explanation is accompanied by menu screens.

EXAMPLE #1

First, you must decide the specifications for the report you wish to print. For example, let's print a report which shows Rail where the Weight is less than 90 lbs. Now you must enter the retrieving specifications.

STEP 1 Select the item from TABLE-1 that you want to compare. We will select **RAIL** and press **ENTER**.

```
**********************************************************************
**                                                                  **
**    You may select 2 items from TABLE-1 and within each item you  **
** may set 9 PARAMETERS.                                            **
**                                                                  **
**********************************************************************

                          SELECT FIRST ITEM
==========** F[10] HELP *****      TABLE-1     ***** [ESC] TO EXIT **==========
| Ballast               Rail                      Track Deflection          |
| Bridges               Rail Crossings            Track Geometry Detail     |
| Car Type Information  Rail Inspection           Track Geometry Summary    |
| Condition Summary     Repair Cost Information   Turnout Inspection        |
| Culverts              Road Crossings            Turnouts                  |
| Curves                Segment Identification    Vegetation Inspection     |
| Plates/Fastenings     Tie Inspection            Work History              |
==========================================================================
```

STEP 2 Select the element within RAIL to be compared. We want to compare the **WEIGHT** of the RAIL. Select **WEIGHT** and press **ENTER.**

STEP 3 Select the operator. We will select **LESS THAN** and press **ENTER.** (The operator CONTAINS should only be used with text fields. For example, if you wanted to search for the road name Walnut and the road name had been entered as Walnut Drive, Walnut Ave, and Walnut Street, you could search for the road name where it CONTAINS the word Walnut. The computer will select all the road names containing the word Walnut.)

STEP 4 Enter the value to be compared against. We will enter **90** and press **ENTER.**

STEP 5 Now the computer will ask if we would like to add another RAIL parameter. We do not have another parameter to set, so we will enter **N** and press **ENTER.**

STEP 6 The following menu appears, asking if we would like to add a second item from TABLE-1 to our selection. We do not have another item to add, so we will enter **N** and press **ENTER.**

```
**********************************************************************
YOU HAVE SELECTED Rail
**********************************************************************

                          SELECT FIELD:
          ***** RAIL ***** [ESC] TO EXIT *****
 ALL                   Track Segment #      Weight   Section
 Begin Location        End Location         Length

                    ** OPERATORS **
 EQUAL TO                    NOT EQUAL TO
 GREATER THAN                GREATER THAN OR EQUAL TO
 LESS THAN                   LESS THAN OR EQUAL TO
 CONTAINS

What Value ? 90
DO YOU WISH TO ADD ANOTHER Rail PARAMETER (Y/N) ? N
DO YOU WISH TO ADD A SECOND ITEM FROM TABLE-1 (Y/N) ? N
```

STEP 7 The computer will now display your selection and ask if this selection is correct. Enter **Y** or **N**. If you entered **Y**, the computer will display the print routing menu. See step 8 below. If you enter **N**, the computer will return to the **TABLE 1 MENU** ready to begin your report selection again.

STEP 8 Align the paper in your printer, select print routing option and press **ENTER**. An example of this report is displayed on the following page.

```
**********************************************************************
YOU HAVE SELECTED Rail WHERE Weight IS LESS THAN 90
**********************************************************************

IS THIS SELECTION CO RECT (Y/N) Y
                    SELECT PRINT ROUTING
 Printer   Screen    Both      Exit
```

EXAMPLE #1 REPORT

****

YOU HAVE SELECTED Rail WHERE Weight IS LESS THAN 90

****

EX111 RAILER I TRACK SEGMENT INVENTORY Page: 1

CAMP EXAMPLE B RAIL

10/16/86

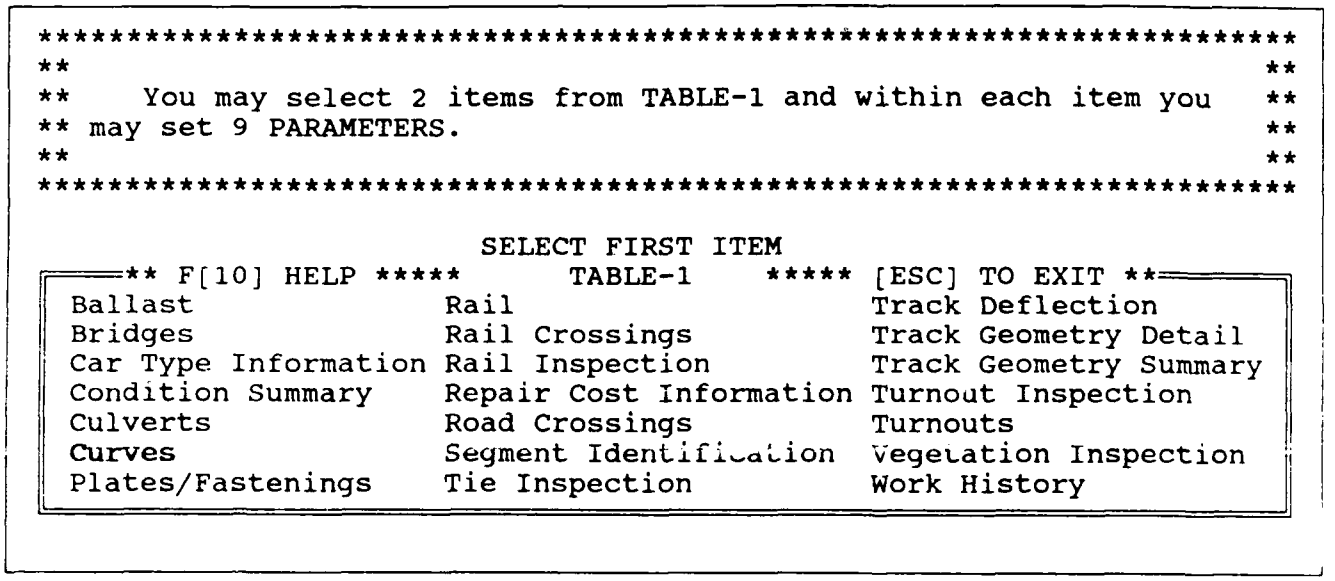
TRACK SEGMENT #	WEIGHT	SECTION	BEGIN LOCATION	END LOCATION	LENGTH	COMMENTS
301	80 lbs/yd	-0-	62+37	68+24	1174 LF	-0-
302	80 lbs/yd	-0-	5+87	12+88	1402 LF	-0-
401	80 lbs/yd	-0-	5+87	10+91	1008 LF	-0-
501	60 lbs/yd	-0-	50+16	57+92	1552 LF	-0-
701	80 lbs/yd	-0-	309+99	316+86	1374 LF	-0-
702	80 lbs/yd	-0-	6+87	21+93	3012 LF	-0-
703	80 lbs/yd	-0-	21+93	35+15	2644 LF	-0-
801	80 lbs/yd	-0-	21+93	35+71	2756 LF	-0-
901	60 lbs/yd	-0-	322+71	342+87	4032 LF	-0-
I01	75 lbs/yd	-0-	0+00	25+70	5140 LF	-0-
M03	85 lbs/yd	-0-	189+43	211+53	4420 LF	-0-
P01	75 lbs/yd	-0-	211+53	254+20	8534 LF	-0-
Y01	80 lbs/yd	-0-	314+13	321+26	1374 LF	-0-

TOTAL RAIL LINEAR FEET = 38422 LF

EXAMPLE #2

Print a report which shows Curves where the Curvature is greater than 8 degrees.

STEP 1 Select the item from TABLE-1 that you want to compare. We will select **CURVES** and press **ENTER**.



STEP 2 Select the element within CURVES to be compare. We want to compare the **CURVATURE**. Select **CURVATURE** and press **ENTER**.

STEP 3 Select the operator. We will select **GREATER THAN** and press **ENTER**. (The operator CONTAINS should only be used with text fields. For example, if you wanted to search for the road name Walnut and the road name had been entered as Walnut Drive, Walnut Ave, and Walnut Street, you could search for the road name where it CONTAINS the word Walnut. The computer will select all the road names containing the word Walnut.)

STEP 4 Enter the value to be compared against. We will enter **8** and press **ENTER**.

STEP 5 Now the computer will ask if we would like to add another CURVES parameter. We do not have another parameter to set for CURVES, so we will enter **N** and press **ENTER**.

STEP 6 Next the computer will ask if we would like to add a second item to our selection. We do not have another item to add, so we will enter **N** and press **ENTER**.

```
**********************************************************************
YOU HAVE SELECTED Curves
**********************************************************************

                          SELECT FIELD:
          ***** CURVES ***** [ESC] TO EXIT *****
ALL              Track Segment #     Curve ID #      Curvature
Superelevation                       Speed

                        ** OPERATORS **
EQUAL TO                        NOT EQUAL TO
GREATER THAN                    GREATER THAN OR EQUAL TO
LESS THAN                       LESS THAN OR EQUAL TO
CONTAINS

What Value ? 8
DO YOU WISH TO ADD ANOTHER Curves PARAMETER (Y/N) ? N
DO YOU WISH TO ADD A SECOND ITEM FROM TABLE-1 (Y/N) ? N
```

STEP 7 The computer will now display your selection and ask if this is correct. Enter **Y** or **N**. If you entered **Y**, the computer will display the print routing menu. See step 8 below. If you enter **N**, the computer will return to the TABLE 1 MENU ready to begin your report selection again.

STEP 8 Align the paper in your printer, select a print routing option, and press **ENTER**. An example of the report follows.

```
**********************************************************************
YOU HAVE SELECTED Curves WHERE Curvature IS GREATER THAN 8
**********************************************************************

IS THIS SELECTION CORRECT (Y/N) ? Y
                    SELECT PRINT ROUTING
 Printer    Screen     Both       Exit
```

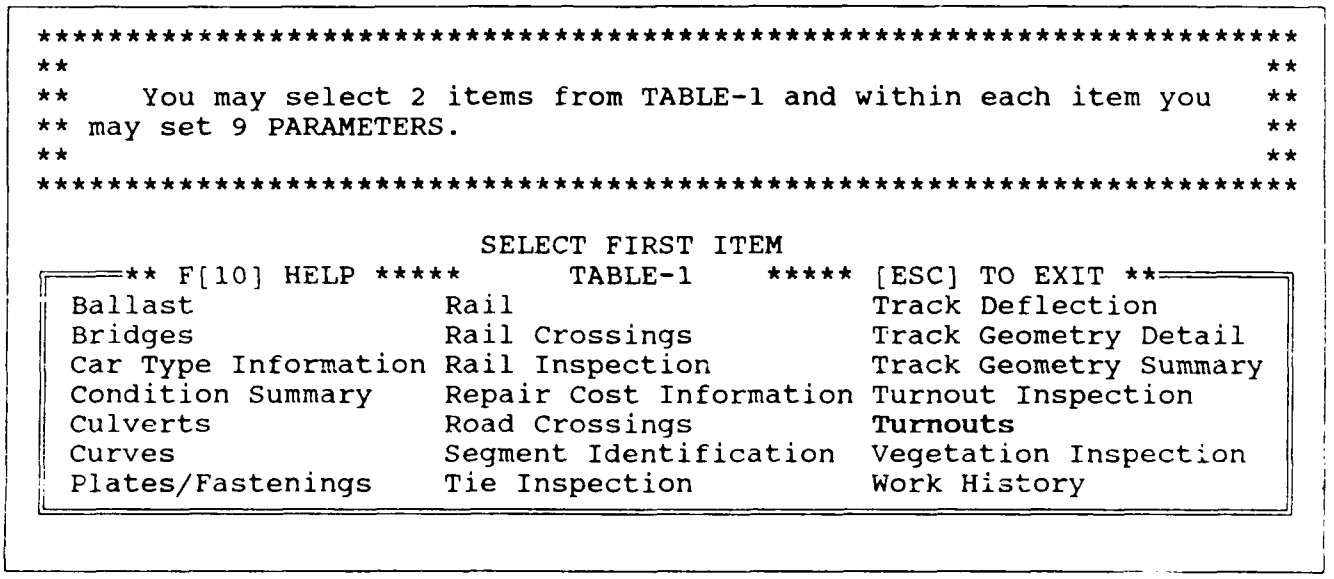
EXAMPLE #2 REPORT

```
**********************************************************************
YOU HAVE SELECTED Curves WHERE Curvature IS GREATER THAN 8
**********************************************************************

EX111          RAILER I TRACK SEGMENT INVENTORY          Page.  1
CAMP EXAMPLE B                 CURVES
                             10/16/86

 TRACK      CURVE
SEGMENT #   ID #    CURVATURE   SUPERELEVATION   SPEED   COMMENTS
 301        1C3       12.00       0.0 inches    10 MPH  -0-
 701        1C7       13.00       0.0 inches    15 MPH  -0-
 Y01        1CY       13.00       0.0 inches    10 MPH  -0-
```

EXAMPLE #3

Print a report which shows Turnouts where the Frog Type is equal to Self Guarded and the Size is equal to 8.

STEP 1 Select the item from TABLE-1 that you want to compare. We will select **TURNOUTS** and press **ENTER**.



STEP 2 Select the element within TURNOUTS to be compared. We want to compare the **FROG TYPE**. Select **FROG TYPE** and press **ENTER**.

STEP 3 Select the operator. We will select **EQUAL TO** and press **ENTER**.

STEP 4 Enter the value to be compared against. We will enter **SELF GUARDED** and press **ENTER**.

STEP 5 Now the computer will ask if we would like to add another TURNOUTS parameter. We have a second parameter to set for TURNOUTS, so we will enter **Y** and press **ENTER**.

STEP 6 Next the computer will ask if this is to be an "AND" or an "OR" condition. In this case, we select **AND** and press **ENTER**.

```
**********************************************************************
YOU HAVE SELECTED Turnouts
**********************************************************************

                              SELECT FIELD:
          =***** TURNOUTS ***** [ESC] TO EXIT *****=
          | ALL                    Track Segment #     Turnout ID #  |
          | Switch Point Location  Direction           Point Length  |
          | Rail Weight            Frog Type           Size          |
          | Guard Rail Length                                        |
          ============================================================

          ============================** OPERATORS **=================
          | EQUAL TO                 NOT EQUAL TO                    |
          | GREATER THAN             GREATER THAN OR EQUAL TO        |
          | LESS THAN                LESS THAN OR EQUAL TO           |
          | CONTAINS                                                 |
          ============================================================

What Value ? SELF GUARDED
DO YOU WISH TO ADD ANOTHER Turnouts PARAMETER (Y/N) ? Y

          ============================================================
          | AND       OR                                             |
          ============================================================
```

STEP 7 Select the item within TURNOUTS to be compared. We want to compare **SIZE** and press **ENTER**.

STEP 8 Select the operator. We will select **EQUAL TO** and press **ENTER**. (The operator CONTAINS should only be used with text fields.)

STEP 9 Enter the value to be compared against. We will enter **8** and press **ENTER**.

STEP 10 Now the computer will ask if we would like to add another TURNOUTS parameter. We do not have another parameter to set for TURNOUTS, so we will enter **N** and press **ENTER**.

STEP 11 Next the computer will ask if we would like to add a second item to our selection. We do not have another item to add, so we will enter **N** and press **ENTER**.

```
**********************************************************************
YOU HAVE SELECTED Turnouts WHERE Frog Type IS EQUAL TO SELF
GUARDED AND
**********************************************************************

                              SELECT FIELD:
          ***** TURNOUTS ***** [ESC] TO EXIT *****
 ALL                          Track Segment #     Turnout ID #
 Switch Point Location        Direction           Point Length
 Rail Weight                  Frog Type           Size
 Guard Rail Length

                          ** OPERATORS **
 EQUAL TO                     NOT EQUAL TO
 GREATER THAN                 GREATER THAN OR EQUAL TO
 LESS THAN                    LESS THAN OR EQUAL TO
 CONTAINS

What Value ? 8
DO YOU WISH TO ADD ANOTHER Turnouts PARAMETER (Y/N) ? N
DO YOU WISH TO ADD A SECOND ITEM FROM TABLE-1 (Y/N) ? N
```

STEP 12 The computer will now display your selection and ask if this is correct. Enter **Y** or **N** and press **ENTER**. If you entered **Y**, the computer will display the print routing menu. See step 8 below. If you enter **N**, the computer will return to the TABLE 1 MENU ready to begin your report selection again.

STEP 13 Select print routing option and press **ENTER**. An example of the report follows.

```
**************************************************************************
 YOU HAVE SELECTED Turnouts WHERE Frog Type IS EQUAL TO SELF
 GUARDED AND WHERE Size IS EQUAL TO 8
**************************************************************************

 IS THIS SELECTION CORRECT (Y/N) ? Y
 ═══════════════════SELECT PRINT ROUTING═══════════════════
 Printer   Screen    Both      Exit
```

EXAMPLE #3 REPORT

```
EX111                    RAILER I TRACK SEGMENT INVENTORY        Page:  1
CAMP EXAMPLE B                      TURNOUTS
                                    05/27/87

TRACK      SWITCH                                                  GUARD
SEGMENT#/  POINT    FROG          RAIL      POINT                  RAIL
TURNOUT #  LOCATION SIZE DIR.     WEIGHT    LENGTH   FROG TYPE     LENGTH
103        68+51      8  RH      90 lbs/yd 15.0 LF  SELF GUARDED  -0 LF
1T2

702        21+05      8  LH      80 lbs/yd 15.0 LF  SELF GUARDED  -0 LF
1T8
```

EXAMPLE #4

Print a report which shows Repair Cost Information where the Repair Cost is greater than $25000 and Segment Identification Information where the Track Category is equal to "A".

STEP 1 Select the item from TABLE-1 that you are interested in. We will select **REPAIR COST INFORMATION** and press **ENTER**.

```
**************************************************************************
**                                                                      **
**    You may select 2 items from TABLE-1 and within each item you      **
** may set 9 PARAMETERS.                                                **
**                                                                      **
**************************************************************************

                          SELECT FIRST ITEM
==========** F[10] HELP *****      TABLE-1     ***** [ESC] TO EXIT **==========
 Ballast               Rail                     Track Deflection
 Bridges               Rail Crossings           Track Geometry Detail
 Car Type Information  Rail Inspection          Track Geometry Summary
 Condition Summary     Repair Cost Information  Turnout Inspection
 Culverts              Road Crossings           Turnouts
 Curves                Segment Identification   Vegetation Inspection
 Plates/Fastenings     Tie Inspection           Work History
```

STEP 2 Select the element within REPAIR COST INFORMATION to be compared. We want to compare the **REPAIR COST**. Select **REPAIR COST** and press **ENTER**.

STEP 3 Select the operator. We will select **GREATER THAN** and press **ENTER**.

STEP 4 Enter the value to be compared against. We will enter **25000** and press **ENTER**.

STEP 5 Now the computer will ask if we would like to add another REPAIR COST INFORMATION parameter. We do not have a second parameter to set for REPAIR COST INFORMATION, so we will enter **N** and press **ENTER**.

STEP 6 Next the computer will ask if we would like to add a second item to our selection. We do have another item to add, so we will enter **Y** and press **ENTER**.

```
**********************************************************************
YOU HAVE SELECTED Repair Cost Information
**********************************************************************

                              SELECT FIELD:
     ***** REPAIR COST INFORMATION ***** [ESC] TO EXIT *****
     ALL                        Track Segment #     Repair Cost

                              ** OPERATORS **
     EQUAL TO                   NOT EQUAL TO
     GREATER THAN               GREATER THAN OR EQUAL TO
     LESS THAN                  LESS THAN OR EQUAL TO
     CONTAINS

What Value ? 25000
DO YOU WISH TO ADD ANOTHER Repair Cost Information PARAMETER (Y/N) ?N
DO YOU WISH TO ADD A SECOND ITEM FROM TABLE-1 (Y/N) ?Y
```

STEP 7 Select the second item from TABLE-1 that you are interested in. We will enter **SEGMENT IDENTIFICATION** and press **ENTER**.

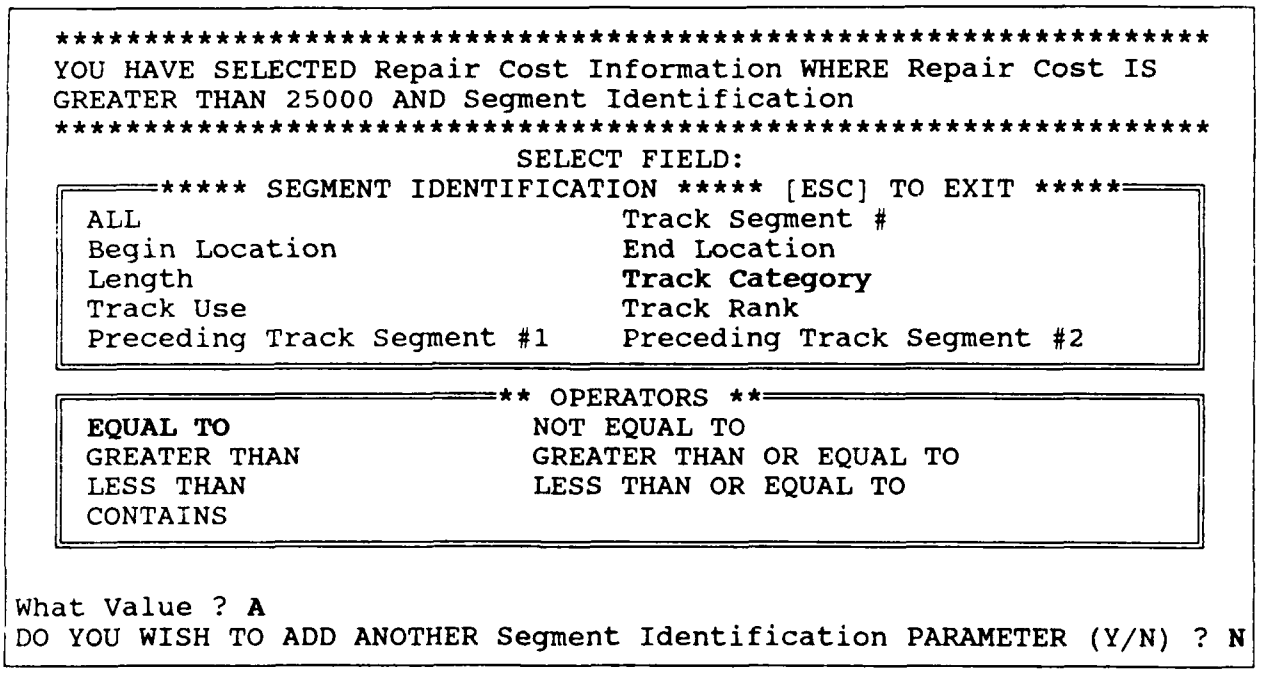
```
**************************************************************************
YOU HAVE SELECTED Repair Cost Information WHERE Repair Cost IS GREATER
THAN 25000 AND
**************************************************************************

                          SELECT SECOND ITEM
=======** F[10] HELP *****      TABLE-1     ***** [ESC] TO EXIT **=========
 Ballast                Rail                    Track Deflection
 Bridges                Rail Crossings          Track Geometry Detail
 Car Type Information   Rail Inspection         Track Geometry Summary
 Condition Summary      Repair Cost Information Turnout Inspection
 Culverts               Road Crossings          Turnouts
 Curves                 Segment Identification  Vegetation Inspection
 Plates/Fastenings      Tie Inspection          Work History
```

STEP 8 Select the element within SEGMENT IDENTIFICATION to be compared. We want to compare the **TRACK CATEGORY**. Select **TRACK CATEGORY** and press **ENTER**.

STEP 9 Select the operator. We will select **EQUAL TO** and press **ENTER**. (The operator CONTAINS should only be used with text fields.)

STEP 10 Enter the value to be compared against. We will enter **A** and press **ENTER**.

STEP 11 Now the computer will ask if we would like to add another SEGMENT IDENTIFICATION parameter. We do not have another parameter to set for SEGMENT IDENTIFICATION, so we will enter **N** and press **ENTER**.



STEP 12 The computer will now display your selection and ask if this is correct. Enter **Y** or **N** and press **ENTER**.

STEP 13 Select print routing option and press **ENTER**.

```
**********************************************************************
YOU HAVE SELECTED Repair Cost Information WHERE Repair Cost IS
GREATER THAN 1500 AND Segment Identification WHERE Track Category
IS EQUAL TO A
**********************************************************************

IS THIS SELECTION CORRECT (Y/N) ? Y
                    SELECT PRINT ROUTING
 Printer    Screen     Both       Exit
```

An example of this report follows. First this report prints a list of the Common Track Segment Numbers. These are the Track Segments that meet the conditions. Then the computer will ask if you would like to see more information. Enter **Y** or **N** and press **ENTER**. If you entered **Y**, two more reports will be printed showing more information.

EXAMPLE #4 REPORT

```
**********************************************************************
YOU HAVE SELECTED Repair Cost Information WHERE Repair Cost IS GREATER THAN
25000 AND Segment Identification WHERE Track Category IS EQUAL TO A
**********************************************************************

                          RAILER I
                  COMMON TRACK SEGMENT #
                          101
                          501
                          901A
                          M04
                          M09
```

****

REPAIR COST INFORMATION

TRACK SEGMENT #	DATE	COST/SEGMENT	COST/100 TF	COMMENTS
101	03/31/87	$31,334.00	$638.82	-0-
501	03/31/87	$29,540.00	$3,806.70	INCLUDES COST TO REPAIR DOCK AND UPGRADE LIGHTING
901A	03/31/87	$39,410.00	$3,509.38	-0-
M04	03/31/87	$87,510.00	$551.28	-0-
M09	03/31/87	$25,856.00	$1,361.56	-0-

****

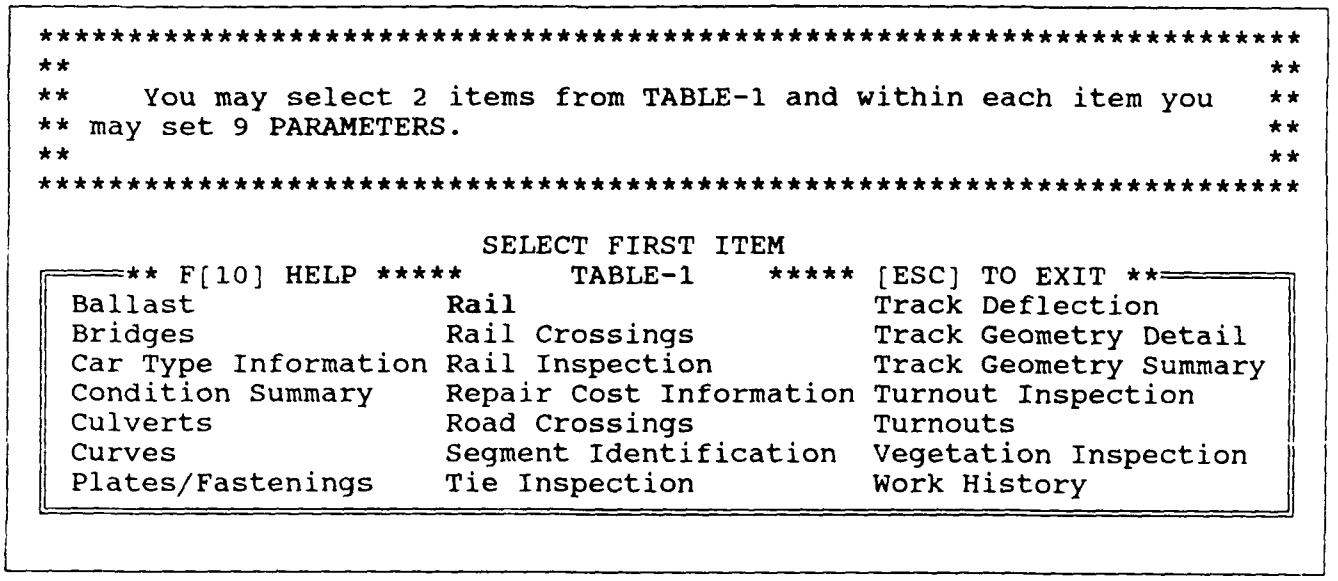
SEGMENT IDENTIFICATION

TRACK SEGMENT#	BEGIN LOCATION	END LOCATION	LENGTH	TRACK CATEGORY	TRACK USE	TRACK RANK	PRECEDING TRACK SEGMENT#(S)
101	1+11	50+16	4905 TF	A	ACCESS	0.0000	M08
	-0-						-0-
501	0+89	8+65	776 TF	A	SERVICE	0.4800	101
	-0-						-0-
901A	1+60	12+83	1123 TF	A	STORAGE	0.1800	M15
	-0-						-0-
M04	30+69	189+43	15874 TF	A	ACCESS	0.0000	M03
	-0-						-0-
M09	274+57	293+56	1899 TF	A	ACCESS	0.0000	M08
	INCLUDES PORTION OF TRACK BEFORE TURNOUT 3TP.						P02

EXAMPLE #5

Print a report which shows Rail where the Weight is less than 90 pounds and Ballast where the Ballast Depth is less than 12 inches.

STEP 1 Select the item from TABLE-1 which you are interested in. We will select **RAIL** and press **ENTER**.



STEP 2 Select the element within RAIL to be compared We want to compare the **WEIGHT**. Select **WEIGHT** and press **ENTER**.

STEP 3 Select the operator. We will select **LESS THAN** and press **ENTER**.

STEP 4 Enter the value to be compared against. We will enter **90** and press **ENTER**.

STEP 5 Now the computer will ask if we would like to add another RAIL parameter. We do not have a second parameter to set for RAIL, so we will enter **N** and press **ENTER**.

STEP 6 Next the computer will ask if we would like to add a second item to our selection. We do have another item to add, so we will enter **Y** and press **ENTER**.

```
**********************************************************************
YOU HAVE SELECTED Rail
**********************************************************************

                          SELECT FIELD:
==========***** RAIL ***** [ESC] TO EXIT *****==========
| ALL                  Track Segment #     Weight    Section |
| Begin Location       End Location        Length            |
-------------------------------------------------------------

==========** OPERATORS **==========
| EQUAL TO                  NOT EQUAL TO                     |
| GREATER THAN              GREATER THAN OR EQUAL TO         |
| LESS THAN                 LESS THAN OR EQUAL TO            |
| CONTAINS                                                   |
-------------------------------------------------------------


What Value ? 90
DO YOU WISH TO ADD ANOTHER Rail PARAMETER (Y/N) ? N
DO YOU WISH TO ADD A SECOND ITEM FROM TABLE-1 (Y/N) ? Y
```

STEP 7 Select the second item from TABLE-1. We will enter **BALLAST** and press **ENTER.**

```
**********************************************************************
YOU HAVE SELECTED Repair Cost Information WHERE Repair Cost IS GREATER
THAN 25000 AND
**********************************************************************

                        SELECT SECOND ITEM
=====** F[10] HELP *****      TABLE-1     ***** [ESC] TO EXIT **=======
| Ballast              Rail                    Track Deflection      |
| Bridges              Rail Crossings          Track Geometry Detail |
| Car Type Information Rail Inspection         Track Geometry Summary|
| Condition Summary    Repair Cost Information Turnout Inspection    |
| Culverts             Road Crossings          Turnouts              |
| Curves               Segment Identification  Vegetation Inspection |
| Plates/Fastenings    Tie Inspection          Work History          |
=======================================================================
```

STEP 8 Select the element within BALLAST to be compared. We want to compare the **BALLAST DEPTH**. Select **BALLAST DEPTH** and press **ENTER**.

STEP 9 Select the operator. We will select **LESS THAN** and press **ENTER**. (The operator CONTAINS should only be used with text fields.)

STEP 10 Enter the value to be compared against. We will enter 12 and press **ENTER**.

STEP 11 Now the computer will ask if we would like to add another BALLAST parameter. We do not have another parameter to set for BALLAST, so we will enter **N** and press **ENTER**.

```
**********************************************************************
YOU HAVE SELECTED Rail WHERE Weight IS LESS THAN 90 AND Ballast
**********************************************************************

                          SELECT FIELD:
          ***** BALLAST ***** [ESC] TO EXIT *****
ALL              Track Segment #      Ballast Depth

                        ** OPERATORS **
EQUAL TO                    NOT EQUAL TO
GREATER THAN                GREATER THAN OR EQUAL TO
LESS THAN                   LESS THAN OR EQUAL TO
CONTAINS

What Value ? 12
DO YOU WISH TO ADD ANOTHER Ballast PARAMETER (Y/N) ? N
```

STEP 12 The computer will now display your selection and ask if this is correct. Enter **Y** or **N** and press **ENTER**. If you entered **Y**, the computer will display the print routing menu. See step 8 below. If you enter **N**, the computer will return to the **TABLE 1 MENU** ready to begin your report selection again.

STEP 13 Select the printer option and press **ENTER**. An example of the report follows.

```
**********************************************************************
YOU HAVE SELECTED Rail WHERE Weight IS LESS THAN 90 AND Ballast
WHERE Ballast Depth IS LESS THAN 12
**********************************************************************

IS THIS SELECTION CORRECT (Y/N) ? Y
                    SELECT PRINT ROUTING
 Printer    Screen     Both       Exit
```

An example of this report follows. First this report prints a list of the Common Track Segment Numbers. These are the Track Segments that meet the conditions. Then the computer will ask if you would like to see more information. Enter **Y** or **N** and press **ENTER**. If you entered **Y**, two more reports will be printed showing more information.

EXAMPLE #5 REPORT

```
**********************************************************************
YOU HAVE SELECTED Rail WHERE Weight IS LESS THAN 90 AND Ballast WHERE
Ballast Depth IS LESS THAN 12
**********************************************************************

                          RAILER I
                  COMMON TRACK SEGMENT #
                          1001
                          301
                          302
                          501
                          901A
                          901B
                          902
```

RAIL

TRACK SEGMENT #	WEIGHT	SECTION	BEGIN LOCATION	END LOCATION	LENGTH	COMMENTS
1001	60 lbs/yd	6017	0+85	14+27	2684 LF	-0-
301	80 lbs/yd	8040	0+89	6+85	1192 LF	-0-
302	80 lbs/yd	8040	6+85	17+52	2134 LF	-0-
501	60 lbs/yd	6017	0+89	8+65	1552 LF	-0-
901A	60 lbs/yd	6017	1+60	12+83	2246 LF	-0-
901B	60 lbs/yd	6017	12+83	26+35	2704 LF	-0-
902	60 lbs/yd	6017	26+35	32+55	1240 LF	-0-

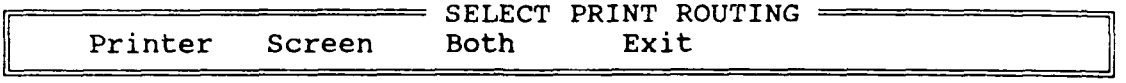
TOTAL RAIL LINEAR FEET = 13752 LF

BALLAST

TRACK SEGMENT #	DEPTH	COMMENTS
1001	8 inches	-0-
301	11 inches	-0-
302	8 inches	-0-
501	8 inches	-0-
901A	8 inches	-0-
901B	8 inches	-0-
902	8 inches	-0-

5.3 Missing Information

Option **(8)** from the REPORT GENERATION menu, Missing Information, displays the following print routing menu. Explanations of the options are below.



SELECT PRINT ROUTING

OPTIONS:

PRINTER This option prints your report on the printer.

SCREEN This option prints your report on the screen.

BOTH This option prints your report on the printer and the screen.

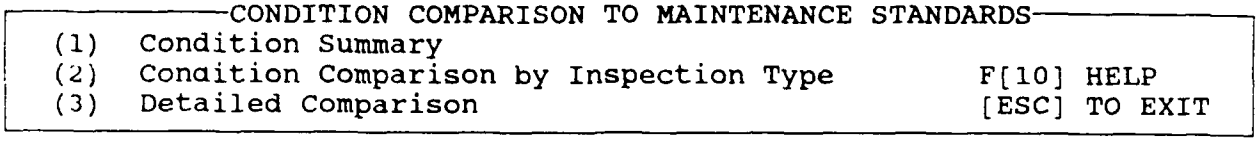
EXIT This option returns to the REPORT GENERATION menu on page 100, without printing the report.

Select your report routing option and press **ENTER.**

This report prints all data item which have missing elements. The missing elements are displayed by a NULL value (-0-).

5.9 Condition Comparison to Maintenance Standards

Option (9) from the REPORT GENERATION menu, Condition Comparison to Maintenance Standards, displays the following menu. Explanations of the options are below.



CONDITION COMPARISON TO MAINTENANCE STANDARDS

OPTIONS:

(1) CONDITION SUMMARY - This option takes you to another menu screen which allows you to print out Track Segment Conditions by various categories. See page 145.

(2) CONDITION COMPARISON BY INSPECTION TYPE - This option prints the Track Segments by Inspection Type.

(3) DETAILED COMPARISON - This option prints the Track Segments by Inspection Type and shows the specific defect(s) which is causing each of the Track Segments to be in that category.

F[10] This option displays the help screen.

[ESC] This option returns to the REPORT GENERATION menu on page 100.

Condition Summary

Option (1) from the CONDITION COMPARISON TO MAINTENANCE STANDARDS menu displays the following menu. Eplanations of the options are below.

```
                    CONDITION SUMMARY
(1)  ALL CONDITIONS
(2)  Out of Service
(3)  5 MPH Speed Limit
(4)  10 MPH Speed Limit
(5)  No Restrictions
(6)  No Defects
(7)  C1-Satisfactory
(8)  C2-Marginal                          F[10] HELP
(9)  C3-Unsatisfactory                    [ESC] TO EXIT
```

CONDITION SUMMARY

OPTIONS:

(1) ALL CONDITIONS - This option prints a summary showing all the Track Segments, the Maintenance Standard Track Condition and the IFS Track Condition.

(2) OUT OF SERVICE - This option prints a summary showing all the Track Segments which are Out of Service.

(3) 5 MPH SPEED LIMIT - This option prints a summary showing all the Track Segments which have a 5 MPH Speed Restriction.

(4) 10 MPH SPEED LIMIT - This option prints a summary showing all the Track Segments which have a 10 MPH Speed Restriction.

(5) NO RESTRICTIONS - This option prints a summary showing all the Track Segments which have no operational restrictions but do have defects within the Track Segments.

(6) NO DEFECTS - This option prints a summary showing all the Track Segments which have no defects.

(7) C1-SATISFACTORY - This option prints a summary showing all the Track Segments which have an IFS Condition Code of C1 - Satisfactory.

(8) C2-MARGINAL - This option prints a summary showing all the Track Segments which have an IFS Condition Code of C2 - Marginal.

(9) C3-UNSATISFACTORY - This option prints a summary showing all the Track Segments which have an IFS Condition Code of C3 - Unsatisfactory.

F[10] This option displays a help screen.

[ESC] This option returns to the CONDITION COMPARISON TO MAINTENANCE STANDARDS MENU on page 144.

Choosing any of the nine Condition Summary options will bring up this Track Segment Selection screen.

```
Press ESC when done with this data.

- Enter up to 10
    - Track Segment #'s to print specific Track Segments (e.g.) M01
      or NE01
                              and/or
   - Track #'s followed by an asterisk (*) to print all the Track
     Segments within that Track (e.g.) M* or NE*
                               or
- Enter ALL in the #1. location to print All the Track Segments.

                        1.  M*
                        2.
                        3.
                        4.
                        5.
                        6.
                        7.
                        8.
                        9.
                       10.
```

Enter the Track Segment Numbers you wish to print. You may enter up to ten Track Segment Numbers, or enter Track Numbers followed by an asterisk (*) to print all the Track Segments within the track (e.g., M* or P*), or enter "ALL" next to the 1. to print all the Track Segment Numbers.

Press [ESC] when done entering the Track Segment Numbers. The following print routing menu will appear. Explanations of the options are below.

SELECT PRINT ROUTING

Printer Screen Both Exit

SELECT PRINT ROUTING

OPTIONS:

PRINTER This option prints your report on the printer.

SCREEN This option prints your report on the screen.

BOTH This option prints your report on the printer and the screen.

EXIT This option returns to the REPORT GENERATION menu on page 100, without printing the report.

Align the paper in your printer, select your report routing option, and press **ENTER**. An example of the Condition Summary Report follows.

EX111 RAILER I Page: 1
CAMP EXAMPLE B CONDITION SUMMARY
04/06/87

TRACK SEGMENT #	MAINTENANCE STANDARD CONDITION	IFS CONDITION
M01	OUT OF SERVICE	C3 - UNSATISFACTORY
M02	5 MPH LIMIT	C3 - UNSATISFACTORY
M03	NO DEFECTS	C1 - SATISFACTORY
M04	OUT OF SERVICE	C3 - UNSATISFACTORY
M05	OUT OF SERVICE	C3 - UNSATISFACTORY
M06	OUT OF SERVICE	C3 - UNSATISFACTORY
M07	5 MPH LIMIT	C3 - UNSATISFACTORY
M08	OUT OF SERVICE	C3 - UNSATISFACTORY
M09	OUT OF SERVICE	C3 - UNSATISFACTORY

Condition Comparison by Inspection Type

Option (2) from the CONDITION COMPARISON TO MAINTENANCE STANDARDS menu, Condition Comparison by Inspection Type, displays the following Track Segment Selection menu.

Press ESC when done with this data.

- Enter up to 10
  - Track Segment #'s to print specific Track Segments (e.g.) M01 or NE01

and/or

  - Track #'s followed by an asterisk (*) to print all the Track Segments within that Track (e.g.) M* or NE*

or

- Enter ALL in the #1. location to print All the Track Segments.

1. 1*
2.
3.
4.
5.
6.
7.
8.
9.
10.

Enter the Track Segment Numbers you wish to print. You may enter up to ten Track Segment Numbers, or enter Track Numbers followed by an asterisk (*) to print all the Track Segments within the track (e.g., M* or P*), or enter **"ALL"** next to the 1. to print all the Track Segment Numbers.

Press [**ESC**] when done entering the Track Segment Numbers. The following print routing menu will appear. Explanations of the options are below.

SELECT PRINT ROUTING			
Printer	Screen	Both	Exit

SELECT PRINT ROUTING

OPTIONS:

PRINTER This option prints your report on the printer.

SCREEN This option prints your report on the screen.

BOTH This option prints your report on the printer and the screen.

EXIT This option returns to the REPORT GENERATION menu on page 100, without printing the report.

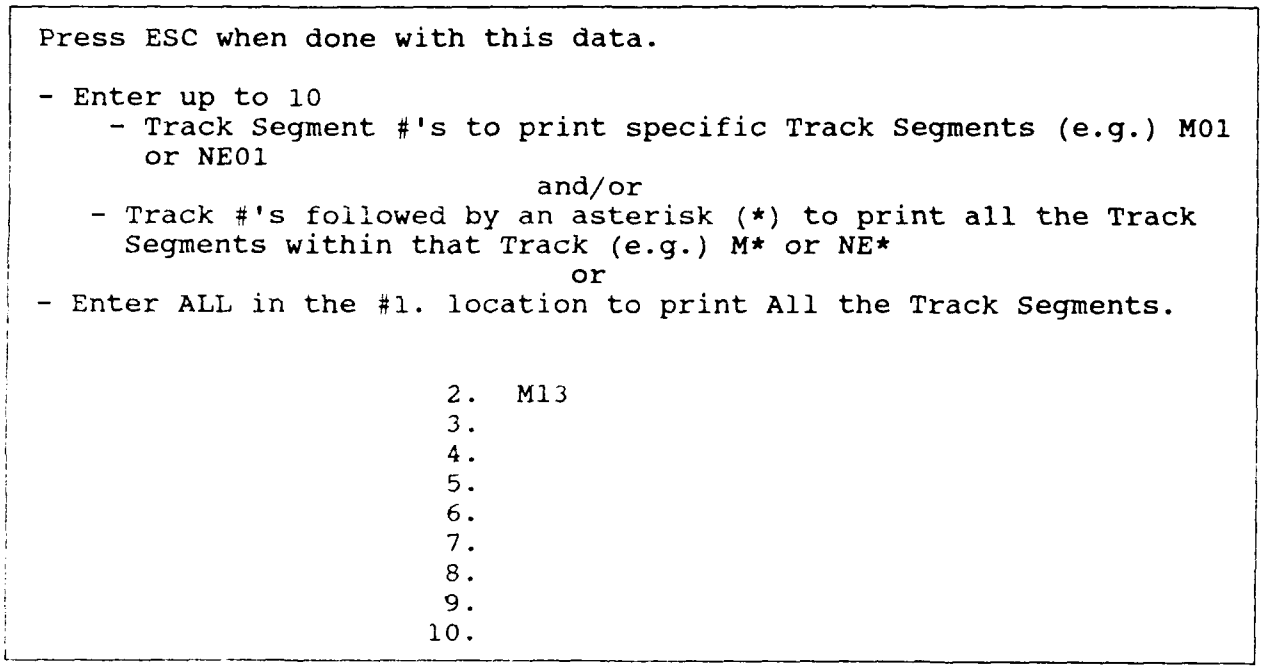
Align the paper in your printer, select your report routing option, and press **ENTER**. An example of the Condition Comparison by Inspection Type Report follows.

EX111 RAILER 1 Page: 1
CAMP EXAMPLE B CONDITION COMPARISON BY
INSPECTION TYPE
04/06/87

TRACK SEGMENT #	OUT OF SERVICE	5 MPH SPEED LIMIT	10 MPH SPEED LIMIT	NO RESTRICTIONS	NO DEFECTS
1001	-0-	TIES	-0-	-0-	-0-
101	TURNOUTS	VEGETATION	TIES	-0-	-0-
102	-0-	TIES	VEGETATION	-0-	-0-
103	TURNOUTS	TIES	-0-	-0-	-0-
		VEGETATION			
104	-0-	TIES	-0-	VEGETATION	-0-

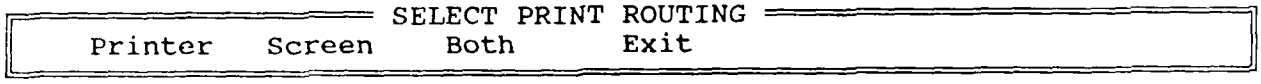
Detailed Comparison

Option (3) from the CONDITION COMPARISON TO MAINTENANCE STANDARDS menu, Detailed Comparison, displays the following Track Segment Selection menu.



Enter the Track Segment Numbers you wish to print. You may enter up to ten Track Segment Numbers, or enter Track Numbers followed by an asterisk (*) to print all the Track Segments within the track (e.g., M* or P*), or enter **"ALL"** next to the 1. to print all the Track Segment Numbers.

Press [**ESC**] when done entering the Track Segment Numbers. The following print routing menu will appear. Explanations of the options are below.



SELECT PRINT ROUTING

OPTIONS:

PRINTER This option prints your report on the printer.

SCREEN This option prints your report on the screen.

BOTH This option prints your report on the printer and the screen.

EXIT This option returns to the REPORT GENERATION menu on page 100, without printing the report.

Align the paper in your printer, select your report routing option, and press **ENTER**. An example of the Detailed Comparison Report follows.

EX111 RAILER I Page: 1
CAMP EXAMPLE B DETAILED COMPARISON
05/27/87

TRACK SEGMENT #	MAINTENANCE STANDARD CONDITION	QUANTITY
	*** NO RESTRICTIONS ***	
M13		
	TIES - 2 CONSECUTIVE DEFECTIVE TIES	8
	TIES - PERCENTAGE OF TOTAL DEFECTIVE TIES	17%
	TIES - AVERAGE SPACING PER RAIL LENGTH > 22 INCHES	1
	TIES - TOTAL DEFECTIVE TIES	40
	VEGETATION - RIGHT - INTERFERES WITH VISIBILITY OF SIGNS	33%
	VEGETATION - CENTER - GROWING IN BALLAST	33%
	VEGETATION - RIGHT - BRUSHES SIDES OF ROLLING STOCK	66%
	VEGETATION - LEFT - PRESENTS A FIRE HAZARD	33%

6. PREPARE DISKETTE FOR FORPROP

Option (3) from the OPENING MENU displays the following screen.

```
This process copies Installation Network Information, Track Segment
Information, Commercial Track Information, and Car Type Information
from your database onto a floppy diskette.

This diskette is then sent to FORSCOM to be used in the operation of
FORPROP.

Please wait . . . .
```

This option copies information from your database onto a diskette to be sent to U.S. Army Forces Command (FORSCOM) to be used in the operation of FORPROP. Before this information is copied, checks are performed on the data to insure that good information is being sent to FORSCOM.

First, the computer checks to see that all Track Segments, or Related Facilities associated with those Track Segments, with condition codes that less than 1.0 have repair costs greater than zero. If the repair cost is zero then the condition code must be 1.0, meaning that the Track Segments are in good condition and do not need repair work or improvements.

When condition codes for the Track Segments and Related Facilities are inconsistent with the repair costs the following report is generated listing the inconsistent Track Segments. These repair costs must be adjusted before you can transfer your database to a diskette to be sent to FORSCOM.

THIS PROCESS WAS UNSUCCESSFUL!

THE CONDITION CODES FOR THE TRACK SEGMENTS AND RELATED FACILITIES ARE INCONSISTENT WITH THE REPAIR COSTS FOR THESE TRACK SEGMENTS.

THIS REPORT LISTS THE INCONSISTENT TRACK SEGMENTS.

CORRECT THE REPAIR COST FOR THESE TRACK SEGMENTS AND THEN RUN OPTION #3 "Prepare Diskette for FORPROP" AGAIN.

EX111 INCONSISTENT CONDITION CODES AND REPAIR COST Page: 1
CAMP EXAMPLE B 10/09/86

TRACK SEGMENT #	RELATED FACILITY CONDITION CODE	TRACK SEGMENT CONDITION CODE	COST
M05	0.9000	1.000	$0.00
M09	0.9000	1.000	$0.00

Second, the computer checks to see that all Track Segments that are active have a car type, and tonnage assigned to them. If car type information is missing the following report is generated listing the Track Segments missing this information. This information must be completed before your database can be transferred to a diskette to be sent to FORSCOM.

THIS PROCESS WAS UNSUCCESSFUL!

THIS REPORT LISTS THE TRACK SEGMENTS WHICH ARE MISSING CAR TYPE INFORMATION.

UPDATE THE CAR TYPE INFORMATION AND THEN RUN OPTION #3 "Prepare Diskette for FORPROP" AGAIN.

EX111 TRACK SEGMENTS WITH MISSING CAR TYPE INFORMATION Page: 1
CAMP EXAMPLE B 10/09/86

TRACK SEGMENT #
P03
R01

If the information in the database is acceptable the computer will ask you to enter a formatted diskette into drive A:. Put your diskette into drive A: and press **ENTER** to continue.

```
Insert a formatted floppy diskette into Drive A:
Press any key to Continue
```

When the data transfer is completed the message below will be displayed, telling you that the process was successful. Press any key to continue and the computer will return to the OPENING MENU.

```
This process was completed successfully!

Remove the floppy diskette from Drive A: and mail it to FORSCOM at
the following address:

                    FORSCOM
                    ATTN:  AFLG-TRM
                    Fort McPherson,  GA
                                     30330-6000

Press any key to continue
```

To check your diskette to verify the data transfer was successful, exit RAILER I and return to the DOS prompt. (C>) There should be three files on your diskette. To list the directory of your diskette type at the DOS prompt **DIR A:** and press **ENTER**. The three files listed should be INSTALL.DAT, COMTRK.DAT, and IDENT.DAT.

To print out a listing of these three files type at the DOS prompt C> **PRINT A:INSTALL.DAT** and press **ENTER**. A file will be printed listing the Installation Number, Installation Name and the State. An example listing follows.

```
EX111      CAMP EXAMPLE B      OR
```

To print out the second file type at the DOS prompt C> **PRINT A:COMTRK.DAT** and press **ENTER**. A file will be printed listing the Commercial Lead Track Number and the Commercial Lead's FRA Class discussed further in Volume I of this report, Chapter 10. The

first eight characters or less are the Commercial Lead Track Number and the ninth character or ninth column is the Commercial Lead's FRA Class. An example listing follows.

```
CPEXLEAD5
```

To print out the third file type at the DOS prompt C> **PRINT A:IDENT.DAT** and press **ENTER**. A file will be printed listing the Track Segment Number, Preceding Track Segment Number, Track Rank, Track Condition, Repair Cost per Segment, Car Type, Heaviest Load, Related Facility Condition and Repair Cost per 100 feet. An example listing follows. The columns are in the order cited above.

1001	902	0.00	0.301	$0.00		0.0	1.0	$0.00
101	M08	0.00	0.000	31,334.00	HEAVY FLAT	140.0	1.0	$638.82
102	101	0.00	0.004	14,076.00	HEAVY FLAT	140.0	1.0	$1,152.83
103	102	0.00	0.008	$9,862.00	HEAVY FLAT	140.0	1.0	$1,434.84
104	103	0.70	0.303	$5,860.00	HEAVY FLAT	140.0	0.7	$618.15
201	103	0.50	0.300	$5,020.00	HEAVY FLAT	140.0	0.7	$499.01
301	102	0.00	0.300	$9,659.00	GONDOLA	110.0	1.0	$1,620.64
302	301	0.17	0.312	$6,960.00	GONDOLA	110.0	0.7	$652.30
401	301	0.44	0.303	$5,890.00	GONDOLA	110.0	1.0	$620.00
501	101	0.48	0.504	29,540.00	BOX	110.0	0.7	$3,806.70
601	M10	0.74	0.000	24,340.00	HEAVY FLAT	190.0	1.0	$552.43
701	M12	0.12	0.305	$3,620.00	FLAT	190.0	1.0	$605.35
702	701	0.12	0.000	22,956.00	FLAT	190.0	1.0	$1,524.30
703	702	0.66	0.500	$8,430.00	FLAT	190.0	0.0	$637.67
801	702	0.47	0.300	$9,480.00	FLAT	190.0	0.0	$683.00
901A	M15	0.18	0.300	39,410.00	FLAT	190.0	1.0	$3,509.38
901B	901A	0.00	0.500	$0.00		0.0	1.0	$0.00
902	901B	0.00	0.006	$0.00		0.0	1.0	$0.00
I01	CPEXLEAD	0.50	0.300	14,410.00	HEAVY FLAT	190.0	1.0	$560.70
M01	CPEXLEAD	0.00	0.001	16,280.00	HEAVY FLAT	190.0	1.0	$621.37
M02	M01	0.00	0.302	$8,486.00	HEAVY FLAT	190.0	1.0	$3,705.68
M03	M02	0.00	1.000	$0.00	HEAVY FLAT	190.0	1.0	$0.00
M04	M03	0.00	0.000	87,510.00	HEAVY FLAT	190.0	1.0	$551.28
M05	M04	0.00	0.001	11,200.00	HEAVY FLAT	190.0	1.0	$506.79
M06	M05	0.00	0.000	22,346.00	HEAVY FLAT	190.0	1.0	$1,052.57
M07	M06	0.00	0.300	10,210.00	HEAVY FLAT	190.0	1.0	$573.92
M08	M07	0.00	0.000	20,592.00	HEAVY FLAT	190.0	1.0	$857.29
M09	M08	0.00	0.000	25,856.00	HEAVY FLAT	190.0	1.0	$1,361.56
M10	M09	0.12	0.013	$8,022.00	HEAVY FLAT	190.0	1.0	$1,440.22
M11	M10	0.12	0.513	$2,050.00	FLAT	190.0	1.0	$561.64
M12	M11	0.12	0.306	12,796.00	FLAT	190.0	1.0	$6,366.17
M13	M12	0.12	0.311	$2,050.00	FLAT	190.0	1.0	$480.09
M14	M13	0.12	0.500	11,184.00	FLAT	190.0	1.0	$1,323.55
M15	M14	0.12	0.000	$7,712.00	FLAT	190.0	1.0	$1,057.89

7. EXITING RAILER I

Option [ESC] from the OPENING MENU (see page 13) in RAILER I displays this EXITING MENU. Explanations of the options are below.

```
═══════════════════════ EXITING MENU ═══════════════════════
(1)    -    Backup Database
(2)    -    Return to Opening Menu
(X)    -    Exit to DOS

   ENTER YOUR SELECTION & PRESS [ENTER]
```

EXITING MENU

OPTIONS:

(1) BACKUP DATABASE - This option will copy the current database that you are working with onto diskettes. You will need at least two formatted diskettes to copy your database onto before you start running this process. This process only backs up the 3 database files. These files are:

RAILER11.RBS
RAILER12.RBS
RAILER13.RBS

This process does not back up the program files.

(2) RETURN TO MAIN MENU - This option allows you to return to the Opening Menu in RAILER I.

(X) EXIT TO DOS - This option will exit from RAILER I and return to the DOS system.

All menus in RAILER I have the option to EXIT out of the menu. Simply press [**ESC**] and the computer will go back to the previous menu. To EXIT completely out of the program continue to press [**ESC**] until you have exited all the way out of the RAILER I program and you are at the EXITING MENU. Then simply enter **X** and press **ENTER** to go back to the DOS system. The following message will be displayed once you have exited completely from RAILER I.

```
              Process Completed.
               Have a Nice Day.
C:\RAILER1>
```

8. DATABASE ADMINISTRATION

The files needed to operate the RAILER I System should be backed up to insure that your files are not lost if the original copy is damaged. The backed up copy of these files should be kept separate from the original copy. Refer to Chapter 2, Section 2.4 (see page 8) for details on backing up RAILER I System on floppy diskettes.

You should back up the RAILER I database files periodically when you have made changes to the data. This insures that the back up copy of the database is always up to date. In the event that the database is damaged, you will not have to recreate the entire database.

If RAILER I has been installed on a computer and will not be in use for a long period of time, you should remove the RAILER I files from the computer to make room for other computer software. To remove the RAILER I files, first backup the system onto floppy diskettes. Second, delete the all the files in the RAILER1 directory. Refer to the DOS Manual for more information about the DELETE command. At this point the RAILER I System has been removed from your computer.

When you are ready to use the RAILER I System again, you need to reinstall the files on the computer. Refer to Chapter 2 Section 2.3 (see page 6) for more information on installing the RAILER I System.

8.1 Backing up the RAILER I Database

Exit out of the OPENING MENU of RAILER I (See page 13) by pressing [ESC]. Then enter option (1) - BACKUP DATABASE.

The following message will appear on the screen asking you if you wish to continue with the backup procedure. Enter **Y** or **N** and press **ENTER**.

```
This routine will save your database on floppy diskettes.
Do you wish to continue?.....(y/n) Y
```

If you enter **Y**, the computer will ask you to enter your first backup diskette. A warning is also displayed telling you that the information on the diskette you are putting into drive A: will be erased and your database information will be copied onto the diskette. Place your Backup Diskette #1 into Drive A: and strike any key when ready.

```
This routine will save your database on floppy diskettes.
Do you wish to continue?.....(y/n) Y


Insert backup diskette 01 in drive A:

Warning! Files in the target drive
A:\ root directory will be erased
Strike any key when ready
```

The computer will continue to ask you to put more diskettes into drive A: until all the information in your database has been copied onto the diskettes.

Once the backup procedure is completed your computer will return to the EXITING MENU. The computer automatically packs your database. This process condenses the database to conserve space. Messages will be displayed on the screen as illustrated below.

```
 Database exists
 Database exists
Reloading keys for fac.num  in plafast
Reloading keys for fac.num  in balsub
Reloading keys for fac.num  in turnout
Reloading keys for fac.num  in culvert
Reloading keys for fac.num  in curve
Reloading keys for fac.num  in bridge
Reloading keys for fac.num  in rlcross
Reloading keys for RNAME    in REPORTS
Reloading keys for FNAME    in FORMS
Reloading keys for fac.num  in ident
Reloading keys for TRK.NO   in INST.TRK
Reloading keys for fac.num  in RAIL
Reloading keys for fac.num  in RDCROSS
Reloading keys for fac.num  in itie
Reloading keys for fac.num  in DOCKS
Reloading keys for fac.num  in MARSH
Reloading keys for fac.num  in LIGHT
Reloading keys for fac.num  in IRAIL
Reloading keys for fac.num  in DETER
Reloading keys for fac.num  in TRAFFIC
Reloading keys for fac.num  in DEFLECT
Reloading keys for fac.num  in ITURN
Reloading keys for fac.num  in veg
Reloading keys for fac.num  in work
Reloading keys for fac.num  in GEO
Reloading keys for fac.num  in PGEO
```

Once this process is completed, the computer will return to the EXITING MENU. See page 156.

8.2 Restoring the RAILER I Database

If you are already in the RAILER I System, exit out of the OPENING MENU of RAILER I by pressing **[ESC]**. Then enter **X** and press **ENTER** to exit the system. At the DOS prompt type:

RESTORE A: C:*.* /s

and press **ENTER**. The Restore command will automatically restore your Backup floppies into the subdirectory RAILER1. For more information about the Restore command refer to your DOS manual.

9. RELATED FACILITY INFORMATION

1) Start up your computer with DOS

2) If necessary change drives to where RAILER I was installed, the C: drive. At the DOS prompt type:
C: and press **ENTER**

3) Change directories to \RAILER1. At the DOS prompt type:
CD\RAILER1 and press **ENTER**

4) Now you are ready to start the RELATED SYSTEM. At the DOS prompt type:
RELATED and press **ENTER**

This will bring up the following RELATED FACILITIES INFORMATION menu. Explanations of the options are below.

```
=================RELATED FACILITIES INFORMATION=================
(1)   Add New Information
(2)   Edit Existing Information (change or delete) F[10] HELP
(3)   Examine or Print Related Facilities Information [ESC] TO EXIT
```

RELATED FACILITIES INFORMATION

OPTIONS:

(1) ADD NEW INFORMATION - This option allows you to add Commercial Track Information, Lighting Information, Loading Docks and Ramps Information, and Marshalling Yard Pavement Information to the database. It cannot be used to edit existing information.

(2) EDIT INFORMATION - This option allows you to change or delete existing information already stored in the database.

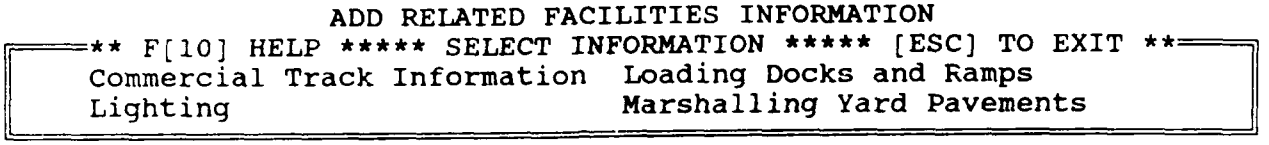
(3) EXAMINE OR PRINT RELATED FACILITIES REPORT - This option takes you to another menu screen which allows you to print information concerning the Related Facilities.

F[10] This option displays a help screen.

[ESC] This option exits the program to DOS.

9.1 Add New Related Facilities Information

Option (1) from RELATED FACILITIES INFORMATION menu displays the following menu. Explanations of the options are below.

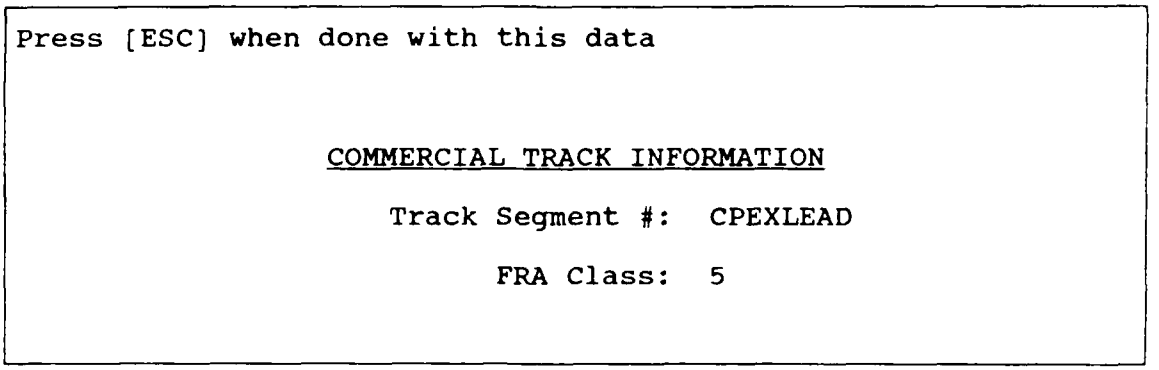


ADD RELATED FACILITIES INFORMATION

OPTIONS:

COMMERCIAL TRACK INFORMATION	This table includes: TRACK SEGMENT NUMBER and FRA CLASS.
LIGHTING	This table includes: TRACK SEGMENT NUMBER, INSPECTION DATE, RELATED FACILITY NUMBER, LIGHTING AREA, CONDITION CODE, and COMMENTS.
LOADING DOCKS AND RAMPS	This table includes: TRACK SEGMENT NUMBER, INSPECTION DATE, RELATED FACILITY NUMBER, DECK MATERIAL TYPE, DECK CONDITION CODE, SUPPORT STRUCTURES MATERIAL TYPE, SUPPORT STRUCTURES CONDITION CODE, OVERALL CONDITION CODE, and COMMENTS.
MARSHALLING YARD PAVEMENTS	This table includes: TRACK SEGMENT NUMBER, INSPECTION DATE, RELATED FACILITY NUMBER, PAVEMENT TYPE, CONDITION CODE, and COMMENTS.
F[10]	This option displays a help screen.
[ESC]	This option returns to the RELATED FACILITIES INFORMATION menu on page 161.

Option **COMMERCIAL TRACK INFORMATION** from the ADD RELATED FACILITIES INFORMATION menu displays the following screen. The data requirements are explained below.



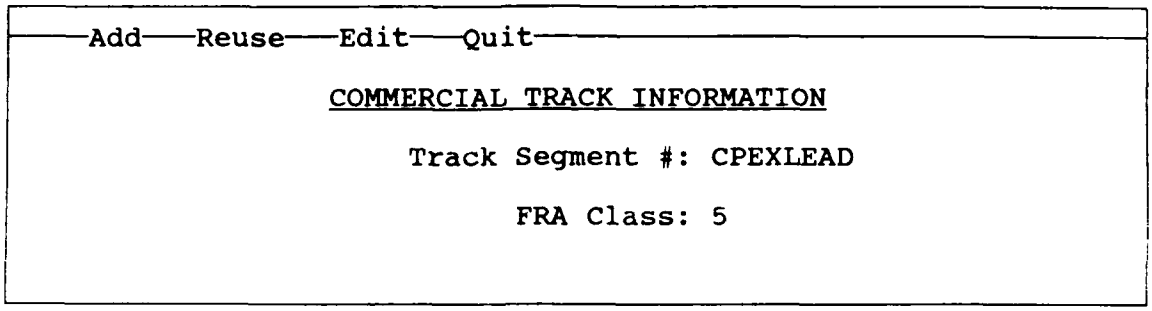
TRACK SEGMENT # - Enter the first eight characters of the Commercial Lead. This Track Segment Number should be the same as the Track Segment Number entered in the Segment Identification Information for the Previous Segment Number. This element is a required element and an error message will be displayed if this field is left blank.

FRA CLASS - Enter the FRA Class for the Serving Railroad. This is a value between 0 and 5.

To enter the Commercial Track Information press **ENTER** or use the **TAB** key to move to the next field on the screen.

Once all the Commercial Track elements have been entered correctly, press **[ESC]** and the command line in the upper left corner of your screen will change to display four ADD options. Refer to page 164.

NOTE: Only one Commercial Track Information entry should be entered.



ADD The information displayed on the screen is added to the database. Then a new screen is displayed ready for you to enter more data.

REUSE The information displayed on the screen is added to the database. Then the same screen is displayed with the same values so that you may reuse the same values in your next entry, instead of retyping then all in again.

EDIT The information displayed on the screen may be changed. Press **[E]** and modify the information. When you are done, press the **[ESC]** key to return to the ADD command menu and choose one of the other options: ADD or REUSE.

QUIT This option terminates the ADD mode.

Use the arrow keys, or the space bar to move the cursor to the correct menu option and press **ENTER**.

Option **LIGHTING** from the ADD RELATED FACILITIES INFORMATION menu displays the following screen. The data requirements are explained below.

```
Press [ESC] when done with this data
                        LIGHTING

          Date:  12/2/86        Track Segment #:  M01

                        Facility #:

        Lighting Area:  A                Condition Code:  C2
        ── LIGHTING AREA ──               ── CONDITION CODING ──
        A = Loading Docks,               C1 = Excellent/Good
            Ramps, & Adjacent            C2 = Fair
            Trackage                     C3 = Poor/Failed
        B = Marshalling Yards

 Comments:
```

DATE - Enter the date the Lighting was inspected. It must be entered in the following format: MM/DD/YY.

TRACK SEGMENT # - Enter the Track Segment Number where the Lighting Area is located. This is a required element. If it is not entered an error message will be displayed on the screen. The Track Segment Number must be identified in the Segment Identification. If the Track Segment Number is not identified an error message will be displayed on the screen.

FACILITY # - Enter the Facility Number of the Lighting Area.

LIGHTING AREA - Enter a code for the Lighting Area. Enter **A** or **B**.

CONDITION CODE - Enter the condition code for the Lighting Area. Enter **C1**, **C2**, or **C3**.

COMMENTS - This element is 80 alphanumeric characters long. This space is provided for written comments, when necessary.

To enter the Lighting Information press **ENTER** or use the **TAB** key to move to the next field on the screen.

Once all the Lighting elements have been entered correctly, press **[ESC]** and the command line in the upper left corner of your screen will change to display four ADD options. Refer to page 164 for explanations of the ADD options. Then select one of the ADD options and press **ENTER**.

Option **LOADING DOCKS AND RAMPS** from the ADD RELATED FACILITIES INFORMATION menu displays the following screen. The data requirements are explained below.

```
Press [ESC] when done with this data
                    LOADING DOCKS & RAMPS

          Date:  12/2/86        Track Segment #:  M01

                        Facility #:  D23

------------ Deck ----------------  ---------- Support Structure -----
Material Type:C Condition Code:C2  Material Type:B Condition Code:C2

                    Overall Condition Code:  C2

        ---- LIGHTING AREA ----          -- CONDITION CODING --
        A = Concrete/Asphalt             C1 = Excellent/Good
        B = Masonry                      C2 = Fair
        C = Wood                         C3 = Poor/Failed
        D = Metal
        E = Earth/Gravel

 Comments:
```

DATE - Enter the date the Loading Docks and Ramps were inspected. It must be entered in the following format: MM/DD/YY.

TRACK SEGMENT # - Enter the Track Segment Number where the Loading Docks and Ramps are located. This is a required element. If the Track Segment Number is not entered an error message will appear on the screen. This Track Segment Number must also already be identified in the inventory. If it is not, an error message will be displayed on the screen.

RELATED FACILITY # - Enter the Facility Number of the Loading Docks and Ramps.

DECK MATERIAL TYPE - Enter a code for the Material Type. Enter **A, B, C, D,** or **E.**

DECK CONDITION CODE - Enter the condition code for the Loading Dock and Ramps. Enter **C1, C2,** or **C3.**

SUPPORT STRUCTURE MATERIAL TYPE - Enter a code for the Material Type. Enter **A, B, C, D,** or **E.**

SUPPORT STRUCTURE CONDITION CODE - Enter the condition code for the Support Structure. Enter **C1, C2,** or **C3.**

OVERALL CONDITION CODE - Enter the condition code for overall condition of the Loading Dock or Ramps. Enter **C1**, **C2**, or **C3**.

COMMENTS - Enter any comments you may have about the Loading Docks and Ramps.

To enter the Load Docks and Ramps Information press **ENTER** or use the **TAB** key to move to the next field on the screen.

Once all the Load Docks and Ramps elements have been entered correctly, press [**ESC**]. When entering this data the command line in the upper left corner will change to display four ADD options. See page 164 for an explanation of the ADD options. Select the correct ADD option and press **ENTER**.

Option **MARSHALLING YARD PAVEMENTS** from the ADD RELATED FACILITIES INFORMATION menu displays the following screen. The data requirements are explained below.

```
Press [ESC] when done with this data
                MARSHALLING YARD PAVEMENTS

          Date:  12/2/86          Track Segment #:  M01

                          Facility #:  Y44

       Pavement Type:  A                 Condition Code:  C3
       ---- PAVEMENT TYPE ----           -- CONDITION CODING --
       A = Unpaved/Gravel                C1 = Excellent/Good
       B = Concrete/Asphalt              C2 = Fair
                                         C3 = Poor/Failed

 Comments:
```

DATE - Enter the date the Marshalling Yard Pavements were inspected in the following format: (MM/DD/YY).

TRACK SEGMENT # - Enter the Track Segment Number where the Marshalling Yard Pavements are located. This is a required element. If the Track Segment Number is not entered and error message will be displayed on the screen. The Track Segment Number must also already be identified in the inventory. If it is not, an error message will be displayed on the screen.

FACILITY # - Enter the Facility Number of the Marshalling Yard Pavements.

PAVEMENT TYPE - Enter a code for the Pavement Type. Enter **A** or **B**.

CONDITION CODE - Enter the condition code for the Marshalling Yard Pavements. Enter **C1**, **C2**, or **C3**.

COMMENTS - Enter any comments you may have about the Marshalling Yard Pavements.

To enter the Marshalling Yards Pavements Information press **ENTER** or use the **TAB** key to move to the next field on the screen.

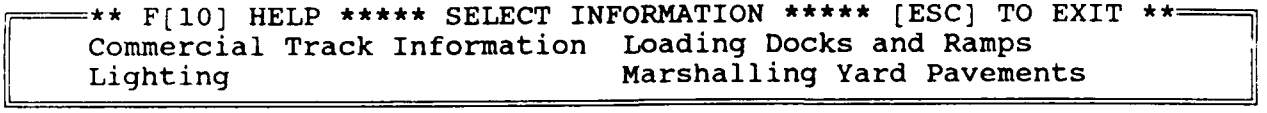
Once all the Marshalling Yards Pavements elements have been entered correctly, press **[ESC]**. The command line in the upper

left corner of your screen will change to display four ADD options. See page 164 for an explanation of the ADD options. Select the correct option and press **ENTER**.

9.2 Edit Related Facilities Information

Option (2) from RELATED FACILITIES INFORMATION menu displays the following menu. Explanations of the options are below.

EDIT RELATED FACILITIES INFORMATION



EDIT RELATED FACILITIES INFORMATION

OPTIONS:

COMMERCIAL TRACK INFORMATION	This table includes: TRACK SEGMENT NUMBER, and FRA CLASS.
LIGHTING	This table includes: TRACK SEGMENT NUMBER, INSPECTION DATE, RELATED FACILITY NUMBER, LIGHTING AREA, CONDITION CODE, and COMMENTS.
LOADING DOCKS AND RAMPS	This table includes: TRACK SEGMENT NUMBER, INSPECTION DATE, RELATED FACILITY NUMBER, DECK MATERIAL TYPE, DECK CONDITION CODE, SUPPORT STRUCTURES MATERIAL TYPE, SUPPORT STRUCTURES CONDITION CODE, OVERALL CONDITION CODE, and COMMENTS.
MARSHALLING YARD PAVEMENTS	This table includes: TRACK SEGMENT NUMBER, INSPECTION DATE, RELATED FACILITY NUMBER, PAVEMENT TYPE, CONDITION CODE, and COMMENTS.
F[10]	This option displays a help screen.
[ESC]	This option returns to the RELATED FACILITIES INFORMATION menu on page 161.

Select the item you wish to edit and press **ENTER**. The computer will then ask for a Track Segment Number or a Track Number of the item you wish to edit. Enter the correct response and press **ENTER**, or leave it blank and simply press **ENTER** to start with the first Track Segment Number alphabetically that has Related Facilities associated with it. The Commercial Lead Track Segment Numbers will be recalled automatically. Refer to pages 163 through 169 for more information about the elements within each item.

Make any changes you wish to the information and then press [ESC]. The command line in the upper left corner of your screen will change to display seven EDIT options.

SKIP The information displayed on the screen is not modified and the next row in the table is displayed.

EDIT The information displayed on the screen may be changed. Press [E] and modify the information. When you are done, press the [ESC] key to return to the EDIT command menu and choose one of the other options: CHANGE, ADD, RESET, or DELETE.

CHANGE The modified information on the screen is saved and the next row in the table is displayed.

ADD The information displayed on the screen is added as a new row to the database and the original row is left unchanged. You now have two rows of information. Then a new screen is displayed ready for you to enter more data.

RESET The information displayed on the screen is not saved. The computer ignores the modifications you made to the row and resets the row to its original values. If the change or add options have already been entered, RESET will not recall the original values.

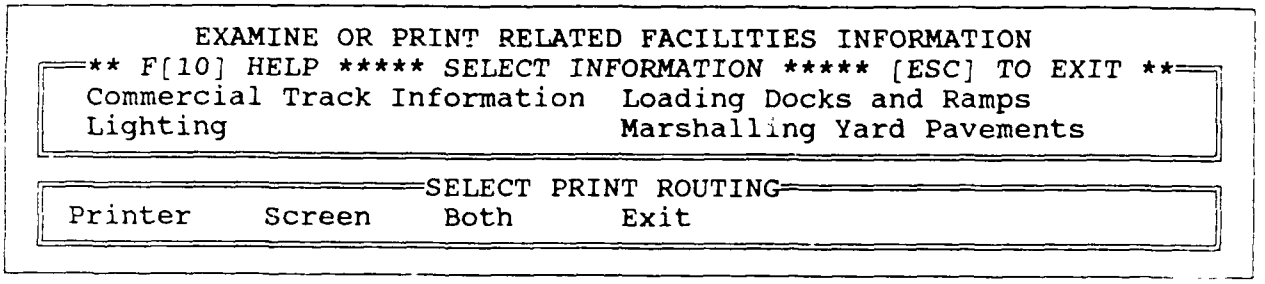
DELETE The information displayed on the screen is deleted from the database when you confirm the command. Then the next row in the table is displayed.

QUIT This option terminates the EDIT mode.

Enter the correct menu option and press **ENTER**.

9.3 Examine or Print Related Facility Information

Option (3) from RELATED FACILITIES INFORMATION menu displays the following menu.



Select the information you wish to print and press **ENTER**. Then the computer will display the Print Routing Menu. Select a printer option and press **ENTER**.

The following page is a sample Railroad System Related Facilities Inspection Collection Form. The inspection Information is collected in the field on these forms. Then the information is entered into the computer from these forms.

RAILROAD SYSTEM RELATED FACILITIES INSPECTION
LOADING DOCKS, RAMPS, AND MARSHALLING YARDS

Date

LIGHTING

Track Segment Number	Facility Number (Note A)	Lighting Area	Condition Code (Note B)	Comments

Lighting Area — CONDITION CODING C1 = EXCELLENT/GOOD C2 = FAIR C3 = POOR/FAILED

A = LOADING DOCKS, RAMPS, AND ADJACENT TRACKAGE (NOTE C)

- C1 = AVERAGE LIGHTMETER READING OF 5 OR GREATER
- C2 = AVERAGE LIGHTMETER READING>3.5 BUT<5
- C3 = AVERAGE LIGHTMETER READING<3.5, NO LIGHTING AVAILABLE

B = MARSHALLING YARDS

- C1 = AVERAGE LIGHTMETER READING OF 2 OR GREATER
- C2 = AVERAGE LIGHTMETER READING>1 BUT<2
- C3 = AVERAGE LIGHTMETER READING<1; NO LIGHTING AVAILABLE

A IF LIGHTING HAS ITS OWN FACILITY NUMBER, WHEN THIS NUMBER SHALL BE USED
B READINGS TAKEN AT 40 FOOT INTERVALS
C READINGS SHOULD BE TAKEN ALONG THE ADJACENT LENGTH OF TRACK GENERALLY USED DURING LOADING OPERATIONS

10. ERROR MESSAGES

ERROR MESSAGE: - ERROR - Data in this field must be of type DATE

CAUSE: You did not enter a DATE in the field of format: MM/DD/YY.

SOLUTION: Enter a DATE in the format: MM/DD/YY.

ERROR MESSAGE: -ERROR- Column ----- must be a valid INTEGER

CAUSE: The column ----- must be an INTEGER number and you typed in an invalid response.

SOLUTION: Type in a valid INTEGER number.

ERROR MESSAGE: -ERROR- Column ----- must be a valid REAL

CAUSE: The column ----- must be a REAL number and you typed in an invalid response.

SOLUTION: Type in a valid REAL number.

ERROR MESSAGE: BEGIN LOCATION IS INVALID

CAUSE: The Begin Location must be entered in a Station Location format. For example: 00+00 or 100+99

SOLUTION: Enter the Begin Location in a Station Location format. For example: 00+00 or 100+99

ERROR MESSAGE: BEGIN LOCATION REQUIRED

CAUSE: You have not typed in a Begin Location.

SOLUTION: Enter a Begin Location.

ERROR MESSAGE: BOLTED JOINTS MUST BE N OR Y

CAUSE: You have entered an invalid response.

SOLUTION: Enter N or Y. If Bolted Joints is unknown leave this field blank.

ERROR MESSAGE: CENTERLINE LOCATION IS INVALID

CAUSE: The Centerline Location must be entered in a Station Location format. For example: 00+00 or 100+99

SOLUTION: Enter the Centerline Location in a Station Location format. For example: 00+00 or 100+99

ERROR MESSAGE: CHIPPED MUST BE N OR Y

CAUSE: You have typed some answer other than **N** or **Y**. The column Chipped/ Worn/ Bent/ Cracked/ Broken/ Corroded/ Altered must be **N** or **Y**.

SOLUTION: Enter **N** or **Y**. If this field is unknown leave blank.

ERROR MESSAGE: CURVATURE REQUIRED

CAUSE: You have not entered the Curvature.

SOLUTION: Enter the Curvature in degrees.

ERROR MESSAGE: DECK TYPE MUST BE OPEN OR BALLAST

CAUSE: The Deck Type must be either **OPEN** or **BALLAST**, or left blank.

SOLUTION: Enter **OPEN** or **BALLAST** for the Deck Type. If Deck Type is unknown leave blank.

ERROR MESSAGE: DEFECT TYPE REQUIRED

CAUSE: You did not enter the Defect Type for this Rail Inspection Information. Valid Defect Types are numbers 1 through 26 as displayed on the screen.

SOLUTION: Enter a valid Defect Type.

ERROR MESSAGE: DIRECTION MUST BE LH, RH OR EQ

CAUSE: You have typed in some answer other than **LH**, **RH** or **EQ** for Direction.

SOLUTION: Enter **LH**, **RH** or **EQ** for Direction. If Direction is unknown leave blank.

ERROR MESSAGE: END LOCATION IS INVALID

CAUSE: The End Location must be entered in a Station Location format. For example: 00+00 or 100+99

SOLUTION: Type in the End Location in a Station Location format. For example: 00+00 or 100+99

ERROR MESSAGE: FROG TYPE IS INVALID

CAUSE: You have typed in an invalid Frog Type. Valid Frog Types are **BOLTED, SELF GUARDED, RAIL BOUND MANGANESE,** and **SPRING.**

SOLUTION: Enter a valid Frog Type of **BOLTED, SELF GUARDED, RAIL BOUND MANGANESE,** and **SPRING.** If Frog Type is unknown leave blank.

ERROR MESSAGE: FROG TYPE IS INVALID

CAUSE: You have typed in an invalid Frog Type. Valid Frog Types are **BOLTED, SOLID MANGANESE,** and **MANGANESE INSERT.**

SOLUTION: Enter a valid Frog Type of **BOLTED, SOLID MANGANESE,** or **MANGANESE INSERT.** If Frog Type is unknown leave this field blank.

ERROR MESSAGE: GAGE RODS MUST BE N OR Y

CAUSE: You have entered an invalid response.

SOLUTION: Enter **N** or **Y.** If Gage Rods is unknown leave blank.

ERROR MESSAGE: IMPROPER SIZE MUST BE N OR Y

CAUSE: You have typed some answer other than **N** or **Y.**

SOLUTION: Enter **N** or **Y** for the column Improper Size/Type/Position or if unknown leave blank.

ERROR MESSAGE: INSPECTION DATE REQUIRED

CAUSE: You did not enter an Inspection Date for this information.

SOLUTION: Type in the Inspection Date in the format: MM/DD/YY.

ERROR MESSAGE: INSTALLATION # REQUIRED

CAUSE: You have not enter an Installation Number.

SOLUTION: Enter the Installation Number.

ERROR MESSAGE: LINE AND SURFACE MUST BE GOOD/FAIR/POOR

CAUSE: You have typed some answer other than **GOOD**, **FAIR**, or **POOR** for Line and Surface.

SOLUTION: Enter **GOOD**, **FAIR**, or **POOR** for Line and Surface. If the Line and Surface is unknown leave this field blank.

ERROR MESSAGE: LOOSE MUST BE N or Y

CAUSE: You have typed some answer other than **N** or **Y**.

SOLUTION: Enter **N** or **Y** for the column Loose. If unknown leave this field blank.

ERROR MESSAGE: MISSING MUST BE N OR Y

CAUSE: You have typed some answer other than **N** or **Y**.

SOLUTION: Enter **N** or **Y** for the column Missing. If this column is unknown leave blank.

ERROR MESSAGE: NO DEFECTS MUST BE MARKED WITH AN X

CAUSE: You have typed some answer other than an **X** for the No Defects column.

SOLUTION: If there are no defects, enter an **X** in the No Defects column or leave blank.

ERROR MESSAGE: Press [ESC] to abort, anything else to continue

CAUSE: You entered a key stroke before the computer was ready to accept it. The computer thinks you want to abort the program.

SOLUTION: Press any key to continue running RAILER I or press [ESC] to abort the program.

ERROR MESSAGE: Press [ESC] to switch INPUT to KEYBOARD, [ENTER] to continue

CAUSE: You pressed **[ESC]** to abort the process. RAILER I WILL abort.

SOLUTION: Press any key and RAILER I WILL abort. RAILER I must be started over.

ERROR MESSAGE: RAIL WEIGHT CHANGES MUST BE N OR Y

CAUSE: You have typed some answer other than **N** or **Y** for Rail Weight Changes within Turnout Limits.

SOLUTION: Enter **N** or **Y** for Rail Weight Changes within Turnout Limits. If the Rail Weight Changes within Turnout Limits is unknown leave this field blank.

ERROR MESSAGE: REVERSING TANGENT MUST BE N OR Y

CAUSE: You have typed some answer other than **N** or **Y** for Reversing Tangent Past Frog Less than 50 Feet.

SOLUTION: Enter **N** or **Y** for Reversing Tangent Past Frog Less than 50 Feet. If the Reversing Tangent Past Frog Less than 50 Feet is unknown leave this field blank.

ERROR MESSAGE: SPEED REQUIRED

CAUSE: You did not enter the Maximum Desired Speed for this information.

SOLUTION: Enter the Maximum Desired Speed.

ERROR MESSAGE: SWITCH POINT LOCATION IS INVALID

CAUSE: The Switch Point Location must be entered in a Station Location format. For example: 00+00 or 100+99

SOLUTION: Type in the Switch Point Location in a Station Location format. For example: 00+00 or 100+99

ERROR MESSAGE: SWITCH STAND OPERATION MUST BE N OR Y

CAUSE: You have typed some answer other than **N** or **Y**. Switch Stand Difficult to Operate must be **N** or **Y**.

SOLUTION: Enter **N** or **Y** for Switch Stand Difficult to Operate. If unknown leave blank.

ERROR MESSAGE: TIE PLATES MUST BE N OR Y

CAUSE: You have type some answer other than **N** or **Y**.

SOLUTION: Enter **N** or **Y** for Tie Plates. If unknown leave this field blank.

ERROR MESSAGE: TRACK # MAY NOT BE DUPLICATED

CAUSE: You have already added this Track Number. Duplicate Track Numbers may not be entered.

SOLUTION: If you are adding information correct the Track Number to one that has not been entered. If you want to edit an exiting Track Number, exit the add routine and use the edit routine.

ERROR MESSAGE: TRACK # MUST EXIST

CAUSE: You must enter a Track Number.

SOLUTION: Enter a Track Number.

ERROR MESSAGE: TRACK CATEGORY MUST BE A OR B

CAUSE: A value other than **A** or **B** was entered for the Track Category.

SOLUTION: For the Track Category, enter **A** for active track or **B** for inactive track. If the Track Category is unknown, leave this field blank.

ERROR MESSAGE: TRACK SEGMENT # MARKED AS UNINSPECTED

CAUSE: This Track Segment has already been marked as an Uninspected Deteriorated Track Segment.

SOLUTION: Delete this Track Segment from the Uninspected Deteriorated Track Segment list, then continue to enter the Inspection Information.

ERROR MESSAGE: TRACK SEGMENT # MAY NOT BE DUPLICATED.

CAUSE: You have already added this Track Segment Number. Duplicate Track Segment Numbers may not be entered.

SOLUTION: Change the Track Segment Number to one that has not been entered. To do this exit out of the add routine and use the edit routine.

ERROR MESSAGE: TRACK SEGMENT # MUST BE IDENTIFIED

CAUSE: The Track Segment Number you entered has not been defined in the Segment Identification Information. The Track Segment Number must first be defined in the inventory.

SOLUTION: Use the add routine to add this Track Segment to the Segment Identification Information in the inventory.

ERROR MESSAGE: TRACK SEGMENT # REQUIRED

CAUSE: You did not enter the Track Segment Number for this information.

SOLUTION: Type in the Track Segment Number.

ERROR MESSAGE: TRACK USE IS INVALID

CAUSE: You have typed an invalid Track Use. Track Use must be either **ACCESS**, **AUXILIARY**, **LOADING**, **SERVICE**, or **STORAGE**.

SOLUTION: Enter the correct Track Use of **ACCESS**, **AUXILIARY**, **LOADING**, **SERVICE**, or **STORAGE**. If the Track Use is unknown, leave this field blank.

ERROR MESSAGE: TURNOUT ID # INVALID

CAUSE: You have entered an invalid Turnout ID Number. The Turnout ID Number must be defined in the Inventory.

SOLUTION: Enter a valid Turnout ID Number which has already been defined in the Inventory.

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Fort Irwin ATTN: AFZJ-EH
Fort Lewis ATTN: AFZH-EH
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